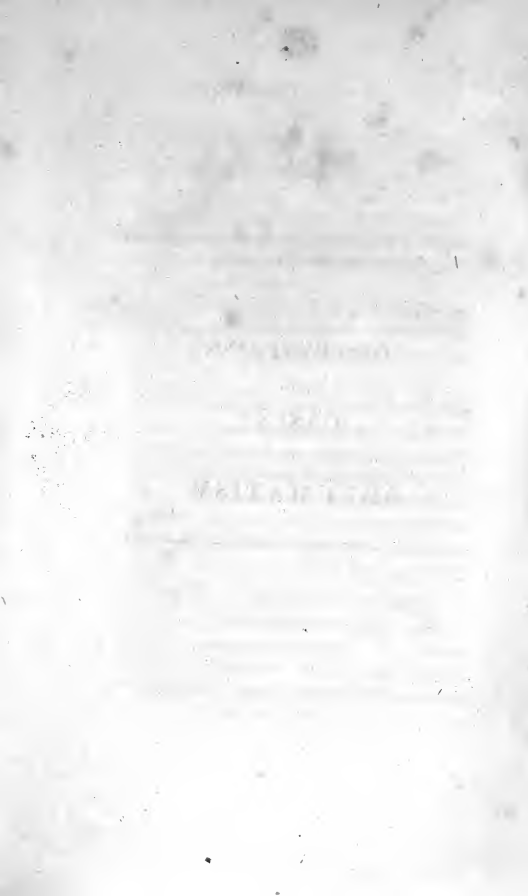


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OBSERVATIONS,
WITH
CASES
OF
RHEUMATISM.



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ILLUSTRATIONS
OF THE
POWER
OF
COMPRESSION & PERCUSSION,
IN THE CURE OF
RHEUMATISM, GOUT,
AND
DEBILITY OF THE EXTREMITIES,
AND IN PROMOTING
HEALTH AND LONGEVITY.



By WILLIAM BALFOUR, M. D.

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TARTAR IN THE CURE OF FEVER, INFLAMMATION, AND
ASTHMA; AND IN PREVENTING PHTHISIS AND APOPLEXY.

SECOND EDITION.

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INTRODUCTION.

THE continual waste and repair going on in the human body would indicate, did not experience demonstrate the contrary, that man was made to live for ever. This uninterrupted process of composition and decomposition, is carried on by vessels not more different in their size and appearance, than in the functions they are destined to perform; and they are infinite in number. The whole machine, indeed, is composed of vessels and nerves; the point of the finest needle cannot be stuck into any part, without producing blood, and occasioning pain. How inconceivably minute, therefore, must be the ramifications of even those vessels which are of diameter sufficient

to carry red blood ! And, we may form some idea of the distribution of the nervous system from this consideration, That we cannot touch the surface of any body, not even in the slightest degree, without having a sensation excited, or, without intimation of the qualities of the body touched being conveyed to the mind ;—that it is rough or smooth, hot or cold. But the minutest vessels which carry red blood are large, compared to those which are not capable of admitting the red particle.

If we trace the aliment from the stomach, where it is first deposited, to its complete conversion into organised, living substance, we find it undergoes innumerable changes ; and that these changes are effected by different sets of vessels, the due performance of each of whose functions depends on the healthy action of the whole. The phenomena of life consist in a succession of functions, which, though in appearance simultaneously performed, yet stand in the relation of cause and effect to each other. Health may therefore be said to consist in a due performance of all the functions

of the body; and disease, in an impaired, increased, or irregular performance of the same functions.

But it is impossible that man in his present condition can enjoy health uninterruptedly. He is daily and necessarily exposed to innumerable causes, which tend to subvert that balance of function which constitutes the perfection of health. Passions and affections of the mind, sudden vicissitudes of temperature, irregularity in exercise, in eating and drinking, and a thousand other causes, conspire to subvert the balance of the circulation, on the equability of which all the other functions of the body depend. To preserve equability of the circulation, then, is to preserve health; to restore it when lost, is to cure disease. If the circulation was always equable, no person would ever die of apoplexy, or of inflammation of the brain, or of inflammation of the lungs, or, indeed, of any inflammation whatever; no person would ever be afflicted with rheumatism, or with any complaint consisting in obstruction of the vessels of the part affected. If equability of circulation was preserved, no

person would ever die of disease. Death would in all cases be natural ; that is to say, the machine would stand still, without pain, without struggle ; and not till extreme old age, and from mere exhaustion.

These observations render it indisputable, that the physician who points out the best means of preserving and restoring equability of circulation, confers the greatest benefit on society ; for health and longevity must ever be considered the greatest blessings of life.

Moderate exercise, or motion, is perhaps the most useful and necessary of all the means made use of for the preservation of health. Without it, health can neither be perfect nor of long duration : For however perfect in all its parts the human body may be, and however wisely adapted every organ to its peculiar function, still motion is necessary to the preservation of that balance in which health consists. Without motion, or muscular action, circulation could not go on. There is a perpetual tendency to inequality in the distribution of the fluids, owing equally to internal as to external causes. The force

of the heart is not sufficient to propel the blood to every part of the body alike. The distance of the extreme parts, the elasticity of the blood-vessels themselves, conspire, with other causes, to render the muscles necessary auxiliaries to the heart, in the distribution of the blood. After sleeping, or sitting motionless for any length of time, we instinctively yawn, and stretch, and writhe every muscle of the body. What is the intention of nature in this? Certainly to restore that equilibrium to the circulation which was lost during perfect rest. The same thing takes place in the commencement of fever. During the first stage, the patient yawns and writhes incessantly, in order to prevent that irregular distribution of the blood which is the consequence of the irregular distribution of the nervous power. If, in these circumstances, the equilibrium of the nervous energy could be restored and preserved, there would be no reaction, or hot stage. The disease would be cut short at once. Emetics, by the convulsive motion they occasion in the whole body, produce these effects in a great degree :

Hence their good effects in the commencement of fever; and not entirely, as physicians have vainly imagined, from the evacuation of morbid matter from the stomach.

But if muscular action, or motion, is necessary to the preservation of health in every stage of life, what is to become of those who are rendered incapable of it by the approach of old age, or the invasion of disease? In these circumstances we must have recourse to means very different from those employed during the vigour of life and of health. In the latter case, business, amusement, and that principle of action which is inherent in us, and which is observable from our earliest infancy, impel us to the quantum of exercise necessary to health; in the former case, all these causes cease to operate, and we are compelled to inactivity. If a substitute can be found for walking and riding on horseback,—if the muscles and blood-vessels of the extremities can by any means be stimulated equally as by walking, and the viscera receive concussion equal to that produced by the jolting of a horse, then all the purposes of exercise are

accomplished;—circulation is promoted, health is preserved, and a fair prospect of longevity is placed in full view.

The means adapted to these ends—the means of promoting circulation, and of preserving health to the diseased, the infirm, and the aged, are percussion and compression. By the former, the circulation is promoted, not only in parts affected with disease, but in the whole body; by the latter, vessels weakened by disease, or by age, are supported. This is not a speculative opinion, which may be right or wrong. It can be put to the test of experience by man, woman, or child, and its truth appreciated in five minutes. If a person sits in a cold room till his feet and legs become cold and benumbed, and a chilliness pervades the whole surface of the body, the application of percussion will produce a glow of warmth over all the parts, equal to that produced by walking. When the blood has been repelled by cold from the surface of the body to the internal parts, it can be brought back again to the surface by percussion: For wherever a stimulus is applied, to that part there is an

afflux of blood; so that the equability of the circulation may be preserved in the sedentary, the diseased, the infirm, and the aged, in a degree highly conducive to health and longevity.

When a person is attacked with rheumatism or gout, means are used to moderate the inflammation or fever, if any is present; and, this being done, the patient is left to his fate. He may recover the use of his limbs, or he may never recover the use of his limbs. His medical adviser prescribes nothing but *patience and flannel*, which any other person could prescribe as well as he. Nay, the majority of medical practitioners do not hesitate to denominate any one an impostor, who would even propose to do any thing further for the relief of a patient, rendered perfectly lame from rheumatism or gout. The belief that has prevailed, of rheumatism and gout being incurable, has superseded all endeavours to find out a cure. But these diseases may be prevented and cured as well as any other diseases. Nature herself teaches us the mode; for when seized with violent pain we instinctively apply

the hand to the part, and compress it. Why, then, should we not follow nature's dictates, and improve her hints? When a person is first attacked with rheumatism or gout, a very slight manual operation would, in the majority of cases, prevent swelling, pain, rigidity of the extremities, and permanent lameness. Even where these diseases have, as it were, fixed their residence, the patient may have the perfect use of his limbs restored, and be enabled thereby to take that exercise, without which health must be imperfect, and old age premature. Medical practitioners, however, encourage their patients in giving perfect rest to parts affected with rheumatism and gout, till, as often happens in the latter disease, the vessels change their action altogether, and secrete uric acid—a function they certainly never were intended to perform. It is incumbent on such practitioners to show, that there is greater security to life in painful, rigid, and swollen limbs, and in frequent and long confinement, than in the free and equable circulation of the blood through every part of the body, and in exercise in the open air: It is

incumbent on them to show, that life is more secure when the functions of the body are imperfectly, than when duly performed. In other words, it is incumbent on them to show, that disease is preferable to health, and more conducive to longevity. There is not a sense or organ in the human body, whose functions are not preserved and improved by exercise. No wonder, then, that so many rheumatic and gouty patients lose entirely the use of their extremities.

It was observed by Lord Bacon, that knowledge more quickly springs from absolute ignorance than from error. It is much easier, surely, to instruct the ignorant than to convince the prejudiced. But in spite of the hostility that has been shown to the practice illustrated in the following pages, I have the satisfaction to see it adopted at last by physicians of the first eminence.* It is no uncommon thing for a novel practice to be hastily adopted, and as quickly laid aside; but when

* *Vide* Transactions of the College of Physicians, Dublin, Vol. I.

an important discovery meets with nothing for a considerable time but neglect and direct opposition, when, instead of being received "with the vehemence of enthusiasm, it is adopted after slow and cautious investigation;" it must be indebted for its triumph to the soundness of its principles, and the efficacy of its application.

It may with truth be affirmed, that there never was an important improvement made in the practice of medicine yet, but what met with opposition. Mercury, bark, cold ablution in fever, vaccination, experienced it. Nay, Harvey himself lost his practice on account of discovering the circulation of the blood.

Percussion and compression have been objected to in gout, on the score of their repelling the disease from the extremities to vital organs. The objection has no foundation whatever, either in matter of fact, or in the nature of things. I have cured lameness from gout in innumerable instances, without any other consequences than the patients being enabled to take that degree of exercise which quickly restored them to perfect health.

It cannot be otherwise. Percussion, instead of repelling, creates an afflux both of nervous energy and sanguineous fluid to the part. Vessels in a state of atony, are thereby roused to action, and circulation is promoted; and bandages support the vessels and enable them to perform their functions. Where fever is present, I treat it on general principles. But it is well known, that the cure of rheumatism and gout is not completed when fever is subdued,—that both these diseases often assume a chronic form, and are not to be removed by the power of medicine.

In gout, inflammation of some part of the extremities, particularly of the great toe, has hitherto been thought as necessary to the safety of the constitution, as Sir Humphry Davie's safety-lamp is to the preservation of coal-miners. This inflammation is not only induced, but kept up by artificial means; and the improved state of health in which the patient ultimately finds himself, is attributed to the degree and duration of the topical affection. Long confinement, intense suffering, and permanent lameness, have been consider-

ed the only conditions on which life could be preserved. It is surprising such observers as Sydenham and Cullen did not perceive, that increased perspiration and a regulated diet, during a long confinement, produced that change of action in the system, which they erroneously attributed to obscure inflammatory action in the joint of a single toe. It is surprising such men did not perceive, that a constitutional disease, of which inflammation of the great toe is only a symptom, could be successfully combated by constitutional remedies, without injury to any part, organ, or function of the body.

Whoever has the slightest acquaintance with natural philosophy and chemistry, knows, that percussion produces wonderful effects on inanimate bodies. A mason will cut a stone of immense thickness perpendicularly through, by a few strokes of a hammer. A few strokes of a hammer will drive home a nail, on which an immense weight gradually applied, would have little or no effect. A smith's anvil may be made hot by continued and forcible hammering. Is it sur-

prising, then, that a power which produces such wonderful effects on inanimate matter, should exert a powerful influence on the living body? If I apply percussion in the course of the Sciatic nerve of a person labouring under Sciatic rheumatism, a pleasurable vibration will be communicated through the whole limb, the nervous power being thereby diffused. If I apply percussion to a paralytic limb, I thereby attract to it the nervous energy. If I apply percussion to limbs debilitated by rheumatism, gout or old age, I thereby excite the action of the vessels and nerves, promote circulation, and restore that heat of which they are deprived through inactivity, and the weakness of the powers of life.

OBSERVATIONS

ON

RHEUMATISM,

&c.

SYDENHAM was the first who favoured mankind with a distinct and accurate history of Rheumatism. Before his time it seems to have been confounded with gout; since that period it has maintained its ground as an idiopathic disease; and has for long been as well understood as any other, the proximate

cause of which has been matter of conjecture only.

Concerning the proximate cause of Rheumatism various opinions have been entertained. Dr. Macbride and others, imagine it to consist in a peculiar acrimony ; others in a lentor of the fluids ; and Dr. Cullen supposes it to be, in the Acute species, a phlogistic diathesis of the blood, with a peculiar affection of the muscular fibre ; but, in the Chronic, “ an atony both of the blood-vessels and of the muscular fibres of the part affected, together with a degree of rigidity and contraction in the latter, such as frequently attends them in a state of atony.”

That in Acute Rheumatism a phlogistic diathesis of the system prevails, admits not of doubt ; and that there is an affection of either the muscular fibre, or of the cellular membrane, or of both, is equally certain. An atony in the

Chronic species, of the muscular fibres, or of the cellular membrane, must also be admitted. But which of these it is, the muscular fibre, or cellular membrane, that, in either species of the disease, is primarily affected, is a matter not quite so manifest. To ascertain this point with any degree of clearness, a review is necessary, of the structure and functions of these organs themselves; and I am not without hopes of being able to adduce facts, in the history of cases hereafter to be detailed, which render it highly probable that, there is in Rheumatism, Chronic as well as Acute, an affection of the Aponeurosis of the muscles, and perhaps of the whole cellular substance connected with them, which forms a principal part of the proximate cause of the disease.

The cellular membrane abounds every where in the human body. It

covers the whole, and connects every part. The celebrated Haller, indeed, considers it as constituting the greater part of the whole mass. All the blood-vessels receive a coat from it, from the Aorta, where it emerges from the heart, to the minutest capillary that enters a tendon.

The nerves are composed of Fasciculi, and these again, of filaments, or Fibrillæ. The cellular membrane furnishes a sheath to every nerve, a covering to every Fasciculus, and every filament is a tube of the same substance, filled with medullary matter; and on the Parietes of this tube are ramified, and are supposed to secrete the medullary substance it contains, those capillaries, of exquisite minuteness, which are continuations of the arteries seen to penetrate the Fasciculi. A muscle, whatever be its length, breadth, or thickness, is not a mass of homoge-

neous substance, but, like the nerves, is formed of many Fasciculi. These Fasciculi are themselves composed of fibres so delicate and numerous, as to be divisible *ad infinitum*. At all events, their minuteness is such, as to have hitherto set at defiance, the patient investigations of the most accurate physiologists, to discover their ultimate division. But, incalculably minute as are these Fibrillæ, they are supplied with vessels and nerves, and inclosed in a cellular sheath, upon which, perhaps, the vessels and nerves terminate. They are also connected to each other by means of cellular membrane, to form the Fasciculi, which, in their turn, are enveloped in a common sheath of the same substance, similar to that which covers the muscle, and separates it from all other parts.

The structure of the cellular tissue is extremely vascular. Mascagni con-

considered its Laminæ as consisting entirely of lymphatics; Ruysch, by his injections, reduced the membranes and cellular substance into a net-work purely arterial; the texture of which was so close as to leave no observable space for any other vessels. Hence he concluded, that capillary arteries formed the basis of membranous and cellular tissues. The truth, however, lies between the opinions of these two celebrated physiologists. For, if one set of vessels only are injected, they become distended; compress and conceal the neighbouring parts; and we know, that lymphatic absorption and arterial exhalation take place from all the internal surfaces; by which is proved, the existence of both arteries and absorbents in membranes and cellular tissue.

From these *data* it may justly be inferred, that the functions of the cellular membrane are not merely mechani-

cal ; that it does not merely cover, connect, divide, suspend ; but that it serves a purpose in the animal economy, essential to the healthy functions of the parts on which it is so liberally bestowed. It is not consistent with common sense and reason to suppose, that a substance formed as is the cellular tissue, of vessels, which carry on, if I may so express myself, the business of life in every part of the body, can remain sound, when the muscular fibre is affected with disease. It is infinitely more rational to conclude, that the affection of the muscular fibre is a consequence of the affection of the cellular substance, whose functions seem, from its universal diffusion, subservient to those of every other organ. For if, as we have seen, the cellular membrane is formed of capillary arteries and absorbents ; the balance between their functions being in any degree overset,

must produce corresponding phenomena. Thus, if the absorbents of a muscle carry off more than the arteries deposit, permanent contraction, in every direction of that muscle, must be the consequence.

It is well known, that diseased appearances are often confined to the cellular membrane; and that, when this is the case, the organs or vessels which it surrounds exhibit a morbid action. It is likewise ascertained, from ample observation and experience, and it goes far in countenancing our theory, that, however insensible the tendons and Aponeuroses of muscles are in their sound state, injuries and morbid affections of these parts are accompanied with pains unusually severe. Thus, inflammation of the integuments, the subjacent cellular substance and Fasciæ of the fore-arm, sometimes the consequence of blood-letting, occasion not

only the most inexpressible sufferings, but not unfrequently render the arm contracted and rigid for life.

But the knowledge we possess of the functions of the cellular membrane, goes a great way in explanation of the phenomena of Rheumatism. We know that it officiates at once as a Fascia, a ligament, a mucous gland; and that by it is secreted all the fat and oily substance that is deposited about the joints, upon, between, and in the interstices of the muscles.

In the first place, then, The Fasciæ of the muscles confine them to their situation parallel with the bones. Were that not the case, a muscle could not contract at all. Destined to act in a certain sphere, if that sphere is lessened, a muscle will either not contract, or its contraction will be of no use. Suppose, for instance, the Biceps Flexor Cubiti, the Sartorius, any rectilineal

muscle, was deprived of its natural bandages that confine it to its situation; what appearance would it exhibit in a state of contraction, were it possible to contract at all in such circumstances? A muscle in contracting, becomes shorter, thicker, harder, rough, and vibrates like a cord when put upon the stretch. It is evident, therefore, that unless a muscle were bound by its Fasciæ or Aponeuroses, its contractions would either be very limited, or, in contracting, it would start from its place like the string of a bow. It follows, that a perfectly sound state of the Fasciæ of muscles, is necessary to their vigorous action; and on the supposition of there being in Rheumatism a morbid affection of the Aponeuroses of the muscles, are explained the pain and difficulty of motion, in the first stages of the disease at least, of a limb affected with that disorder.

In the second place, The doctrine of a morbid affection of the Aponeuroses of, and cellular substance connected with, the muscles, accounts satisfactorily for the debility of the latter,—their permanent contraction,—their rigidity in Chronic Rheumatism. Were it not for the cellular membrane lubricating the surface of the muscles, it is impossible they could move upon each other; they behaved to contract simultaneously, and to the same degree; otherwise, inflammation and adhesion could not fail to be the consequence of their friction upon each other. If, therefore, there should be, from a morbid state of the cellular membrane, a deficiency of that lubricating substance which facilitates the motion of the muscles, rigidity and pain upon motion must in proportion be the consequence. Not only so, if there is a deficiency of the fatty substance, which, in a state of health, is

found in greater or less quantity, deposited between, and in the interstices of the muscles, they must become shorter in proportion; their fibres must approximate nearer to each other in every direction; for the muscular fibre is not a line of continuous substance extending from origin to insertion; it is made up of many pieces whose ends are connected with each other, laterally, by means of vessels, nerves, and cellular substance. What, therefore, has hitherto been deemed a wasting of the muscular fibre, may, with greater propriety, be considered a deficiency of those cushions which give plumpness to every muscle, and symmetry to the whole. Not but that there is a wasting and contraction, or absorption of the molecules of the muscular fibre itself, to a certain degree; and also an affection of the nerves of a part affected with Rheumatism. For if we reflect, that the Fas-

ciculi and Fibrillæ of both the nerves and muscles are enveloped in cellular membrane, we must infer, that the apposition of muscular, and the secretion of nervous substance, are performed by the capillary vessels of that membrane. If, therefore, the functions of these vessels are impaired, the parts they supply must suffer in their turn. But mere disuse will produce emaciation of a limb. There is no fact in physiology better established, than that action is necessary to circulation, and circulation to nutrition. These are, indeed, matters of daily experience. Emaciation of the muscles must therefore be considered more as a consequence than a cause of Rheumatism.

In the third place, The effusions that sometimes take place into the sheaths of the tendons, is a proof that the cellular membrane is principally affected in Rheumatism. I have seen effusions

of this kind occur as the first symptom of the disease ; and I have an instance of it in a gentleman who is presently (1814) under my care. In this case, a circumscribed tumour, without the least previous pain, appeared in the course of the tendon of the ring finger of the left hand. Unable to explain the cause, the gentleman took little or no notice of it for some days, when it became the centre of pains which shot alternately to his wrist and to the points of his fingers, with frequent and most painful catchings of the tendon on which the tumour was situated. These pains and spasms occurred chiefly in the morning when warm in bed ; and, in a short time, the patient became unable to grasp any thing with his hand with any degree of firmness. When he applied to me, I desired him to grasp his left hand firmly with his right, pressing the thumb of the latter upon the Aponeurosis Pal-

maris of the former, and, in that situation, to try what command he had over his fingers. He could instantly use them with the utmost ease and with the greatest vigour. I next directed him to lay firm hold of the wrist of the affected hand with the other, and in this way to try the effect a bandage would produce. This gave him a more complete command still of the whole hand, and enabled him to do with it what he pleased. A clearer proof that the Annular Ligament was deficient in power, cannot be adduced. I endeavoured to persuade this gentleman to wear a bandage about his wrist till a radical cure was obtained; but, highly amused with the success of the above experiments, and believing that he has the means of relief at command, he satisfies himself with the use of the flesh-brush, and, as occasion requires, with the repetition of these experiments, which never fail of

the desired effect. Now, if we reflect that parts of similar structure, though far distant, are often observed to sympathize, we cannot wonder that the tendinous Aponeurosis of the muscles, and all its processes, which are of the same nature and structure with the sheathes of the tendons, and indeed but a continuation of the same substance, should be simultaneously affected with them.

In the fourth place, From the fact that the same cause affects different parts of similar structure in different individuals, and in the same individual, perhaps, at different times, we might judge *a priori* almost, that it is not the muscular fibre, but the cellular membrane that is peculiarly affected in Rheumatism. Thus, exposure to cold produces in one person Catarrh, in another Pneumonia, in another Pleuritis, in another Rheumatism, according to idiosyncrasy. Now, the parts affected in Ca-

tarrh, Pneumonia, Pleuritis, however they may differ in density, are of the same nature with the tendinous Aponeuroses of the joints and muscles, and the cellular substance interposed between their fibres. It is, therefore, not illogical to conclude, that it is the cellular membrane, not the muscular fibre, that is primarily and peculiarly affected in Rheumatism. Not but that there must also be an affection of the muscular fibre; for, as has already been observed, the connection betwixt the two, the cellular substance and muscular fibre, is so intimate, that we cannot well conceive the former to be in a morbid state, and the latter remaining altogether sound. But we must repeat, that this affection of the muscular fibre is secondary, and therefore cannot be considered as constituting a proximate cause.

In the fifth place, Dr. Cullen has remarked, that the affection of the mus-

cular fibres attending Rheumatism, seems to explain why sprains and spasms produce Rheumatic affections. That sprains and spasms frequently terminate in Rheumatism, is an acknowledged fact. But this fact is no way explicable on the supposition of a peculiar affection, in that disease, of the muscular fibre. For it is not the muscular fibre that chiefly suffers in these accidents. The muscles are capable of acting with amazing force. They sometimes rupture their natural bandages; lacerate their tendons; and even the bones themselves have been broken by the violence of their action. It is not probable, therefore, that such powerful organs will be the first to yield in such a trial of strength as takes place in sprains, between them, their tendons, and tendinous Aponeuroses. The fact is, that in cases of sprains, patients uniformly point to the situation of some Aponeurosis,

tendon, annular, capsular, or interosseous ligament, as the seat of debility and of pain. No conclusion, therefore, can be more natural, than that the Rheumatic affections arising from such accidents, are not affections chiefly of the muscular fibre, but of that substance which is of the same structure with the parts originally affected.

In the sixth place, It would appear from the history of Rheumatism, that the proximate cause of the Acute species at least, of that disease, is an affection of the aponeurotic expansion of the tendons and membranous covering of the joints. This appears from joints being first affected with pain, and its consequences. In many instances, indeed, the pain is confined entirely to the joints. At other times, the muscles come to be affected with pains shooting along their course, from one joint to another. But is it by the muscular

fibre that these pains are propagated? Is it not more consonant with the other phenomena of the disease, to suppose, that these pains are occasioned by the oscillation of the contents of the extreme vessels? It is ascertained, that when red blood is, in consequence of inflammation, forced into vessels that do not naturally admit it, resolution is effected by that blood taking a retrograde course, till it comes to vessels of sufficient calibre to transmit it; in inflammations of the eye, for example, and of the Pleura. In the latter, no symptoms of inflammation have appeared, upon dissection, in cases which, previous to death, exhibited every symptom of it; a circumstance, that can be explained only on the supposition of the reflux of the blood, after death, from the part affected. From this view, it is more than probable that vessels so extremely minute, and so very irritable

and contractile as are the capillaries of the Aponeuroses and cellular membrane, are so affected, in Rheumatism, as to be incapable of transmitting, as in health, the colourless part of the blood, which therefore, by its oscillations and pressure against the Parietes of its vessels, occasions those pains hitherto believed to be propagated from joint to joint, by the muscular fibre.

Independent of the primary affection of the joints, the very nature of the remote causes themselves renders it probable, that the proximate cause of Acute Rheumatism is an affection of the membranes connected with the muscles. Sudden changes of weather, the application of cold to the body when warm, cannot but affect those parts soonest, and to the greatest degree, that are most exposed to their operation; and the parts so exposed are, next to the extreme vessels of the skin, the Aponeu-

roses of the joints and muscles. The powerful muscles of the larger joints, the most common seat of Rheumatic affections, are necessarily furnished with Fasciæ, strong and dense, and whose vessels must, of course, be extremely minute. It is, therefore, *a priori*, to be expected, that they must suffer constriction from the application of cold to the body, sooner than vessels of less irritability and contractility, but of larger calibre.

But Chronic is often the consequence of Acute Rheumatism. Nothing, therefore, can be more evident than that what constitutes the proximate cause of the latter, must also form that of the former. For the only difference betwixt the two species of the disease consists in this, that the Acute is accompanied with fever, whereas the Chronic is free, or nearly free, from it. It necessarily follows, that if a phlogistic diathesis of the

blood, amounting to fever, and an affection of the Aponeuroses and membranes of the joints and muscles, constitute the proximate cause of Acute Rheumatism, the Chronic species of the disease must also acknowledge for its proximate cause, an affection, not different in nature, though it may be in degree, of the same membranes and Aponeuroses.

Finally, The mode of operation of the various means employed in the cure of Rheumatism, puts it quite beyond a doubt, that the proximate cause of the disease consists in a languid, or, obstructed circulation in the parts affected. Heat, which is generally employed either as a principal or auxiliary remedy, in the management of this disorder; whether applied externally or internally, moist or dry; whether produced by action, or accumulated in the body by clothing, cannot but stimulate the whole system. If the temperature of the at-

mosphere that surrounds us is increased, the body becomes larger; because the circulating fluids expand and dilate the vessels. The motion of the heart is also increased, both in frequency and force: so that the whole circulating mass moves with greater velocity. If a patient labouring under Rheumatism feels relieved by such increase of temperature; or, which is the same thing, by the accumulation of heat in his body—Upon what principle does the relief thus obtained depend? Can a more natural inference emanate from any premises, than that the stimulus of heat, by rousing to action the vessels which were in a state of atony, enables them to propel their contents? We see this verified every day, on a small scale, by the most ignorant people; who apply a hot iron to a part affected with Rheumatism till the pain is removed. Now, can it be conceived that the pain is removed in any

other way than by discussing the congestion that had taken place in the capillary vessels? These observations apply to the operation of heat from whatever source derived; whether applied to the body externally, as by the increased temperature of chambers, or the warm bath; whether produced by motion, or accumulated by clothing; whether excited by drinking warm fluids, or diffusible stimuli.

The medicines exhibited in Rheumatism with the view of producing evacuations, cannot affect the parts on which chiefly they are intended to act, without previously, simultaneously, or by consequence, affecting the whole system. Diaphoretics cannot increase insensible perspiration, nor sudorifics produce sweat, without affecting the parts intermediate betwixt the stomach and the skin. And, neither can emetics and cathartics operate on the stomach and

bowels, without promoting the action of the absorbents.

Tonics, even, a most useful class of medicines in the cure of Rheumatism and its consequences, if they do not quicken, must increase the force, at least, of the circulation.

Now, if the remedies employed in the cure of Rheumatism operate by increasing the action of the system, we cannot avoid concluding, that the parts affected are relieved by having their action promoted. For what takes place in the system must take place in every part of it. Consequently, atony, or diminished action, must be the proximate cause of the disease. But no other vessels than the capillary can be obstructed, without being attended with consequences very different from what ever take place in Rheumatism. Therefore, the mode of operation of the different remedies employed in the cure of Rheu-

matism, proves, that the proximate cause of that disease is an affection of the capillary vessels, or of the white parts.

These are the *data*, on which, I have endeavoured to found, an entirely new mode of treating Rheumatism and other complaints allied to it, as illustrated in the following cases.

CASE I.

I WAS led into these speculations, near as they may approach, or far as they may be from the truth, by what occurred some time ago in my own person, and which I have often since practised upon others, with almost uniformly the same good effect. Having been seized with a Rheumatic affection of the left shoulder, chiefly in the course of the Deltoid muscle, the pain at times, but especially towards morning, when warm in bed, was so severe as to make me cry out. Desirous, on one of these occasions, of moving my arm, a task to which its own powers were unequal, I grasped it firmly with my right hand, about the middle of the pained muscle. To my surprise and high gratification I was instantly relieved from pain; and while I

thus held my arm, I could do any thing with it I pleased, without farther aid from my right hand, than mere compression. This, therefore, was the remedy, the only remedy to which, on all future occasions of the kind, I had recourse, and it never was employed without success.

I now began to think, that surely the muscular fibre was not the seat of pain in Rheumatism; not even of those pains occasioned by motion. If it were, how could mere compression enable it to contract with all its pristine vigour? I observed, moreover, that when, during the paroxysms of pain, I endeavoured to move my arm, the moment the belly of the muscle began to press on the Aponeuroses, I was obliged to stop; but as soon as artificial resistance was opposed to it, the muscle could perform its functions with the utmost ease. A more decisive proof, I think, cannot be adduced, that the pain and difficulty of

motion of a limb, afflicted with Chronic Rheumatism, are not referable to the muscular fibre. It may occur to the reader, as it did to me, that the sudden relief from pain which I experienced, is to be explained on the principle of ligatures interrupting the progress of pain, or any other sensation, along the course of the nerves, as in some cases of Epilepsy, Whitlow, &c. But this by no means accounts for the fact. For I always remained free from pain for a considerable time after compression was removed. I find, upon inquiry, it is no uncommon thing for people afflicted with Rheumatism, to grasp and nibble a pained joint or muscle, for the purpose of obtaining even temporary relief, which they never fail to procure in greater or less degree.

CASE II.

ON the 21st of October 1814, I was called to a girl of fourteen years of age, whom I found sitting in a warm room, before a large fire. Her skin was hot, face flushed, and pulse at ninety; all which I was disposed to attribute to the warm regimen she had been so carefully observing. I desired her to remove to a distance from the fire. She told me she could not move, on account of Rheumatic pains, reaching from her ankles to the middle of her thighs. This account I soon found to be correct; for when, in consequence of my pressing her, she made an attempt to rise, she was forced to cry out most bitterly; so that I saw her limbs were totally immoveable. I told her I would make her walk through the room, without

pain, before I left her. So much difficulty was experienced, however, in removing her from the place where she sat, that I began to suspect I had put my credit to too great hazard, and therefore endeavoured to pass off, as a joke, the assurance I had given of instant relief. Having accomplished the removal of the patient to a proper situation, I applied a roller of flannel, with a degree of tightness which she could easily bear, to both limbs; beginning at the middle of the thighs, and continuing it downwards over the feet. I now requested she would make an attempt to walk. To this she consented, on condition of being indulged with another person's arm. I allowed her to touch gently her aunt's shoulder. The girl rose up and walked through the room, stiffly to be sure, but without complaint. I ordered her to be put to bed, and as she seemed to labour somewhat in her

breathing, was desirous of taking a little blood from her arm. This was peremptorily resisted by her aunt, the lady of the house, on the score of the patient's youth. It was in vain I represented, that, though Bandaging was a powerful auxiliary, it never could supersede the diligent use of other remedies generally employed in the cure of Rheumatism; above all, that it could have no influence whatever on febrile symptoms. Next day the patient's general health was much the same; the pains as bad as ever. I suspected the cause, and soon found the Bandages were hanging loose. I immediately replaced them with the same good effect as before. With the exception of some laxatives, this girl got no other remedy, and the pains were, notwithstanding, put to flight in a few days. A sister of this girl, aged eighteen, soon after my patient got better, was seized in like manner, all over

the inferior extremities, with Rheumatic pains. Without calling any medical aid, she had recourse to the Bandages, which had the same happy effects with her as with her sister.

CASE III.

A VERY pertinent instance of the effects of Compression occurred to me on the 14th November 1814. A woman, twenty-seven years old, and very much emaciated, complained of a Rheumatic affection in her left shoulder, which had rendered her arm next to useless for many weeks. The pain was confined to the Scapular portion of the Deltoid muscle. She could by no means raise her arm to a right angle with the trunk of her body. She could not put her hand to her mouth, far less touch with the points of her fingers the crown of the head. Placing her before me on a form, I made gentle Pressure with the palm of my hand on the pained part, desiring her, at the same time, to raise her hand to the crown of the head.

This she could not do. I increased the Pressure, and the motion of the arm became in proportion free. This process was continued till she could move her arm in every direction, with little or no uneasiness. What surprised the patient most was, she in a very short time became capable of using her arm, with nearly as much freedom without, as with the Pressure.

How are these facts to be explained? Thus, in my opinion: The Aponeurosis, and perhaps the whole cellular membrane of parts affected with Rheumatism, is in a state of morbid sensibility; this state of sensibility arising from a preternatural distension of its vessels. Bandages and Pressure, by affording support, take off tension, and facilitate motion, which in its turn promotes circulation. The vessels being in this way unloaded, morbid sensibility is diminished; and if the Bandages or Pressure

be often enough applied, or for a sufficient length of time, the vessels and membrane recover their tone. It is evident, therefore, that in proportion as these effects are produced, the motion of a part formerly rigid will not only become free, but remain so. On this principle it was, that the motion of this patient's arm remained free after the removal of the Pressure; on this principle is explained the good effects of friction, &c. in Rheumatism. If a person could always move a limb affected with this disease, little more would be necessary to the cure of it. But as that is, in many instances, impossible, and in all attended with difficulty, in a greater or less degree, Bandages or Pressure, according to circumstances, by facilitating motion, become, if not of themselves a complete cure, at least most powerful auxiliaries, of which, whoever once makes trial, will, when circum-

stances require, ever after avail themselves.

I did not see this woman again till the 10th of December, (the distance of near a month from the time she called upon me,—a month too of the most horrible weather that can well be conceived,) when I called at her house to ascertain if the cure was permanent. She told me, she allowed the Bandage which I applied, to remain till quite dirty, and that when she removed it to have it washed, she found she could do perfectly well without it; and in my presence performed, with the utmost facility, all the motions of which the arm in its soundest state is capable. In one word, this woman's case is an instance of a severe Rheumatic affection, of many weeks standing, being immediately, completely, and permanently cured, by Pressure alone.

CASE IV.

A LADY, upwards of forty, who has for many years been a martyr to Rheumatism, on hearing "I had found out a cure for it," applied to know what it was. I readily informed her that the application of Bandages, or Pressure, according to the situation of the parts affected, with a view to give relief from present pain, and to facilitate motion, was the improvement to which I laid claim; assuring her, that whoever made trial of the remedy, would find their account in it. This piece of information appeared to her so very frivolous, that she never returned an answer. I met her on the street some weeks afterwards, when I inquired if she had made trial of the Bandage? She said she had tied a bit of flannel above the knee-joint,

but as she had had no return of the pains since I saw her, she could say nothing about it. I plainly saw "my cure" was too simple, cheap, and of easy application, to gain the least credit with this lady. This conversation took place about the beginning of November 1814, and I was determined this patient should speak to me before I spoke to her again on the subject. She did so. On the 1st of December I was abruptly stopped by her on the street, when she hastily exclaimed, "It will do, for had it not been for your Bandage, you had not met me to-day. I was seized yesterday morning with my pains, in a most violent degree, when I was glad to have recourse to the Bandage as you directed, which gave me instant relief, and I was able to walk abroad with the utmost ease, a thing which I could not otherwise possibly have done." This I considered a great triumph over prejudice ;

and as the patient is a sensible woman, and of unimpeachable veracity, her account may be relied on. This I hold to be an interesting case in every point of view, and quite decisive of the immense utility to be derived from the use of Bandages, to those afflicted with Rheumatism. That a lady for many years afflicted with Rheumatism, to such a degree as to render her permanently somewhat lame of one leg, and all the year over more or less subject to pain, which in the winter season became at times so severe as to confine her, if not to her bed, at least to her room, should, from the first trial of the Bandage, in one of these paroxysms, be not only relieved from pain, but enabled to walk abroad in cold damp weather, with a firmer step than she had done for eight years before, is a thing that speaks for itself.

On the 10th of December I again met this lady on the street, when she accost-

ed me in these words: "I am not near so lame now." This was a piece of information that, I confess, I did not expect. But it is nevertheless perfectly credible. For if ten days will make a great difference on a person in a state of convalescence from a severe illness, what progress may not a limb weakened by obstructed circulation, make in the same space of time, when circulation is restored, and the system in perfect health and vigour? I would have been quite satisfied, however, with being told that she had experienced considerable benefit from the Bandage, in the way of preventing pain. The ten days, it is material to observe, that had elapsed since she first applied the Bandage, consisted of weather the most inconstant and severe. I therefore now put it seriously to this lady, If she was convinced that the application of the Bandage had warded off the pains with which she was

threatened on the 1st of December? If she believed the strength her leg had recovered was to be ascribed to the Bandage? If, from what she had experienced, she believed that Bandages would be found a powerful remedy for Rheumatism? All these questions she answered most decidedly in the affirmative.

CASE V.

ON the 15th December, William Graham, aged 32, a private in the Cumberland militia, complained of violent Lumbago, which rendered him unable to mount guard, and he was unwilling to be sent to the hospital. On examining the part affected, found he wore a broad Bandage round his body. This he had been accustomed to do, but said he experienced from it no benefit to his back. I asked of him his pocket-handkerchief, which I formed into a Compress, and laid it on the part affected, applying the Bandage over it as tight as he could bear it. On inquiring how he felt, he replied, "Perfectly at ease. I feel a want supplied, and I can turn myself any way I please with perfect freedom." He went to bed

quite well, but in the morning found himself much worse. I saw him again on the 16th, about three o'clock afternoon, when I asked him if he had laid aside the Compress that his pains had returned? He said he still wore the Compress, and experienced from it so much benefit, that without it he could not walk at all. On the 15th I omitted to examine his pulse, which I now found at 100. I therefore immediately took twenty ounces of blood from his arm. This took off the phlogistic diathesis of the system, and the Compress, which, as the pain had extended, I ordered to be enlarged, completed the cure.

CASE VI.

ON the 15th of December 1814, I was called to a young man, Simon Stewart, at the west end of the town, whom I found in a condition that almost beggars description. Pale, ghastly, emaciated, he had been a martyr, for three years uninterruptedly, to Rheumatism in its most cruel forms. His fore-arms, half bent, felt like two boards, and were so immoveably fixed in the prone position, that he could not see the palms of his hands till they were elevated above his eyes. Had no motion at the wrists; the right Carpus, especially, was pained, swelled, distorted; and the command he had over his fingers was so small, that for a considerable time he was under the necessity of being fed by others. In the left knee,

there was great effusion and pain; it had very little flexion and extension, being almost fixed in the half-bent posture. Both his ankles were pained, swelled, and distorted. He had not been able to stand even, on the soles of his feet, for the last twenty-three months. Sometimes, indeed, within that period, he had walked a little, but he did so by turning his heels outwards, and resting his weight on the outer edges of his feet. In this way he would crawl from his bed, along a range of chairs, to the fireside. Such was this man's situation when I first saw him. At the beginning of his illness he had declined going to the hospital, where he was offered the warm-bath free of expence; but had, notwithstanding, been attended by a host of medical men in succession: one of these, in particular, had done every thing for him that skill could devise, or philanthropy suggest; but, long

before I was called in, had also given him over as incurable. Having satisfied myself as to the state of the patient, I applied a roller of flannel to the arms, from the wrists to the elbow-joints inclusive; in like manner to the knee; and, lastly, to both ankles. This done, I desired the patient to come out of his bed and dance! He descended very slowly and timorously, but getting his feet to the ground, and finding he could stand, he at last stepped out,—declaring, that if his knee had not been bound so tightly, he could have leaped the height of his stick.

December 21st.—Has had great pain in the knee, especially in the night-time, ever since the Bandage was applied, which has therefore been laid aside. Some rotatory motion of the fore-arms. Apply a Compress of flannel to the Aponeurosis Plantaris of the left foot.

December 25th.—Rotatory motion of the fore-arms increasing; motion of the left wrist very considerable; had none at the beginning. Some pain among the tarsal bones of the left foot, but can stand on both soles. The Compress to the left foot a great improvement to his walking, to which, he thinks, there is no obstacle but the knee.

December 28th.—Fore-arms more plump in their appearance, and the skin of a more kindly feel. Walked from his bed to the fire-side, without a stick, or any other support. This is the first time he has done so under my care. Feet quite the natural shape, and sets them down without fear or dread. No impediment to his walking abroad but the knee. Can turn his hands half-way to the supine posture.

℞ Muriat. ammoniæ, ʒi.

Acid. acetos. commun. ʒxii. Solve.

To be rubbed with great diligence all over the knee-joint, twice a-day.

December 31st.—Circumference of the knee diminished three-eighths of an inch. Attempted to walk without the Bandages about his feet and ankles; could not set down his feet with confidence and firmness. Applied the Bandages, when he walked with the utmost ease, knee excepted.

January 5, 1815.—Had pain among the tarsal bones of the right foot night before last;—gone to-day. Thermometer yesterday and to-day at 40; weather hazy and damp. What is the reason that people subject to Rheumatism are so much affected upon the change of weather? I firmly believe it is owing to sympathy between the parts affected and the lungs. This is no extravagant idea. According to our theory, the white parts are the chief seat of Rheumatic affections. Now, a great proportion of the

lungs consists of cellular substance. Besides, we every day observe sympathies much less explicable than this: between the parotid gland, for instance, and the testes; the kidneys and the stomach; and, what is more directly in point, betwixt the urethra and the eye, in gonorrhoea. I am aware of a question that may be started here, namely, Can a part distant from the lungs sympathize with them, or be affected through their medium, without their being themselves sensibly affected? I would answer this question in the affirmative. I think it very rational to suppose, that a part already habituated to a particular disease, a disease too that gains ground by repetition, may become severely affected by sympathy with another part that has been but slightly or imperceptibly affected. In no other way can we explain the fact, that persons subject to Rheumatism can, in the morning, before

they get out of bed, or even in the night-time, prognosticate with certainty a change of weather. In such cases, the effects produced in the system, by the change that takes place in the atmosphere, must be through the lungs only, for no other part of the body is exposed to its action.

Knee has not been at all troublesome for some nights past. Took off his stockings last night with his own hands, a thing he has not been able to do for twelve months past. Is gaining flesh. The fore-arms, it is remarked by strangers, are more plump than formerly.

January 6th.—Had severe pain last night in both ankles, but especially in the right, and also in a slight degree in the elbow-joints; motion of these parts, however, no way impaired to-day. On inquiry, I found he sat an hour yesterday after my visit, with his clothes hung round him, for want of aid to

put them on. Has some catarrhal symptoms, with slight cough. Here I may remark, that I have uniformly observed the return of pain, in this patient, to be accompanied with more or less of catarrhal symptoms,—an observation corroborative of what is advanced in yesterday's report, and indeed of our theory, and the whole reasoning on it, from beginning to end.

R. Vin. ipecacuan, ʒi .

Tinct. opii, gtt. xl.

Aq. font. ʒvi . *M.*

the half to be taken an hour before, the other half, at bed-time.

January 9th.—Has got cold anew. Coughed a good deal last night; severe pain in the ankles, wrists, elbows, and left knee. Cannot walk to-day, nor suffer the Bandages so tight as usual. Keen frost yesterday; thermometer at 40 to-day; weather boisterous and damp.

12th.—Is able to walk again, but has still some pain among the tarsal bones

of the right foot. I do not expect this patient to make any farther progress during the winter months, and shall be very glad if he retains what he has acquired. The Bandages, it must be admitted, have done wonders; but they are not a match for an inveterate disease, weather variable in the extreme, an open house, with the patient's bed at the back of the door, a clay floor, and imprudent conduct, combined. I therefore close this case for the present, trusting I shall be able to give a more decisively favourable account of it hereafter.

I continued to attend this patient for six weeks after the preceding report, trusting I would be able to surmount his supineness and indifference; but found, that the more attention I bestowed on him, the less he would do for himself. I therefore abandoned him, as a person unworthy of medical aid.

CASE VII.

In the first week of January, Mrs. M. a lady about 36 years of age, complained of severe pain in the left lumbar region, for which she had been advised to have blood let. On applying to me, I recommended a trial of a Compress and Bandage. Having never heard of such a mode of cure, she appeared at a loss whether to take my advice as a joke or not. On assuring her I was serious, she promised compliance as soon as she got home. I insisted on the trial being made immediately; and as I had been setting a fractured arm just before she came in, there was a piece of flannel lying in the room, of which I made a Compress, directing her to lay it on the part affected, and to make use of her handkerchief for a

Bandage. When I returned to the room I purposely introduced another subject of conversation, that what observations she might make on the mode of cure we had adopted should come spontaneously from herself. Accordingly, I soon observed her moving the trunk of her body, without having received any directions from me to that effect, backwards, forwards, and sideways. I asked her what she meant by so doing. She said the pain was gone, which yet she could scarcely believe, and that, to ascertain the fact, she was practising those motions which she dared not attempt before the Compress and Bandage were applied, but which she could now do with ease. Next day the pain struck her in the right lumbar region, from which also it immediately removed on application to the part of the Compress and Bandage.

When I relate such instances of the immediate and great good effects of Compression in Lumbago, candour and truth demand the acknowledgement, that I have met with several cases in which that mode of treatment completely failed of success. The superficial observer alone, however, will from hence conclude against the utility of the practice; for the muscles of the loins are not all situated on a plane. Some of them are superficial, others deep-seated. Compression may affect the former; it cannot the latter. To deny, therefore, the utility of Bandages in the cure of Rheumatism, because cases occur which admit not of Compression, would be as unscientific as to say, that, because blood-vessels are sometimes ruptured or wounded, which, from their situation, it is not in the power of man to coerce, Ambrose Parey, in introducing the tying of ar-

teries in amputation, is not the author of the most important improvement ever made in the operative branch of the healing art; or, because we meet with ulcers so vitiated as to admit of being cured by no mode of treatment, that the use of Bandages, as introduced by Mr. Baynton for the cure of old ulcers, is not the most valuable improvement that medical surgery has received in modern times. Cinchona does not always cure intermittent fever, nor mercury syphilis. But would any man be so mad as to reject these remedies as not generally to be depended on, for the cure of these diseases?

CASE VIII.

On the 9th of January, I was called to Mr. B. a gentleman traveller, lodged in the Black-bull inn, who informed me he had been arrested on his journey, for four weeks before, by Acute Rheumatism, and that he had been attended by ———. His father, who had come from Whitehaven to see and carry home his son, having heard, in the town, of the successful application of Bandages in the cure of Rheumatism, mentioned, on his return to the inn, the circumstance to the patient, who took no rest till his father brought me to him. I stated the impropriety of my interfering with the patients of another practitioner in his absence. But the young gentleman told me, “ he had not seen his doctors for some time;

that he conceived they did not intend to visit him any more, he having been out; and, at any rate, he was not to be deprived, on account of any trifling piece of etiquette, of the benefit of the Bandages, if benefit was to be obtained from them."

This gentleman I found convalescent, but complaining grievously of pain in his left hand, which was also much swelled; of pain and stiffness of the left elbow; of pain and weakness about the left shoulder; of pain and rigidity of the muscles of the back of the neck; of weakness and pain upon motion, all along the spine; and of pain and stiffness of the left knee, the outside of which he could scarcely suffer to be touched.

I began with desiring the patient to shew me how he could walk. He moved and threw his weight upon the left leg, slowly and timorously, as if

afraid to trust himself upon it. But no sooner was a Bandage applied, than he planted his foot firmly, and walked with great freedom, declaring that, in respect of his knee, he felt quite a different man. I next proceeded to examine the state of his left arm, and found the range of motion it possessed very circumscribed indeed. He could not even put his hand to his mouth. Upon application, however, of a Bandage from the points of the fingers to the elbow-joint inclusive, he could do it freely. On account of the patient being very much fatigued, I did nothing at this call to the shoulder, farther than grasping it with one of my hands, in order to shew him what could be done. Upon this, he moved his arm with great facility in every direction.

January 10th.—Passed a good night, having slept from eleven to five with-

out interruption. Pain of the left hand and knee greatly abated; in other respects as before. Removed the Bandages, and ordered the diligent use of the flesh-brush, for a considerable time, to the parts affected, which was extremely grateful to the patient. Applied the Bandages as before, and also to the left shoulder, making a turn under the right, by which two breadths of the Roller were made to press upon the back of the neck, a circumstance that also gave much pleasure and satisfaction.

January 11th.—Pain of the left knee, wrist, and elbow almost gone. Muscles of the neck also much relieved. Swelling of the left hand greatly abated. Motion of the left arm entire, and much more vigorous. Omit the Bandages.

January 12th.—Has slight pain and stiffness to-day, in both ankles. In other respects improving. Swelling of

the left hand entirely gone. Applied Bandages to both ankles.

January 13th.—Was out yesterday; but says the pain and stiffness of his ankles were such, that he could not have walked at all without the Bandages. Is resolved to have *a set of them* to carry along with him. This, I think, sufficiently indicates the opinion he entertains of their utility. It is, indeed, in such cases as this, that the pre-eminence of Bandages in the cure of Rheumatism is most conspicuous. Let us suppose that Bandages had not been applied to this gentleman's ankles,—he must of course have remained at home; let us suppose that I had confided to rubefacients and flannel, for the removal of his pains, when would the desired effect have been produced? in a day? a week? a month? No man can answer these questions. One thing only is certain,—that the longer a patient in such

circumstances is confined to the house, the longer is his general health of being restored. But no sooner were the Bandages applied to this gentleman's ankles, than he was enabled to walk abroad. The consequence was, he returned with an appetite greatly improved, and with a universal glow and moisture of the skin, which are most successfully promoted by action in the open air, and of more real benefit to a Rheumatic patient, than all the sudorifics in the world.

CASE IX.

ON the 16th January 1815, ———, residing at Cramond, came to consult me about a Rheumatic affection, of many years' standing, in his left haunch. His knees and thighs had also been affected, and are still feeble, but free from rigidity and pain. Walks with a timorous irresolute step, the one foot often involuntarily kicking the other. I applied a Bandage to both knees, beginning a little below, and carrying it a little above the joints. This gave him a command of his limbs, he said, to which he had been a stranger for many years. His principal complaint, however, was situate immediately under the Crest of the left Ilium. As soon as I ascertained this, I was sure of being able to afford him relief; for the

smooth surface of the bone I knew would present an equable resistance to Pressure from without. I began, therefore, with desiring the patient to perform the various motions of which the trunk of the body is capable in its sound state. But this was a task to which he was altogether unequal. His body, indeed, had been confined to a prone posture for a great length of time. He could tie the shoe of his right foot with ease, but could not reach farther than the middle of his left leg. I put him, therefore, in this position, desiring him to point, at the same time, to the spot that checked his stooping farther. This done, I pressed my hand against the part affected, and desired him to put his hand down to his foot. This he did at once, and with facility, to his own astonishment, and to that of his son-in-law, who looked on. Having several times practised

this, and other motions of which he was formerly incapable, I applied a Compress and Bandage, formed of such materials as were at hand, and sent him away rejoicing.

FROM the preceding details it will perhaps be inferred, that it is in Chronic Rheumatism chiefly that decisive effects are to be expected from Bandages. This may lessen, in the estimation of some, the value of the remedy. But if it is attended to, that Chronic is as often a cause as a consequence of Acute Rheumatism; that Chronic Rheumatism occurs out of all proportion more frequently than Acute; Bandages, as a remedy applicable with the fairest prospect of success in so many instances, cannot, if viewed impartially, be considered in any other light than as the

accomplishment of what has hitherto been a Desideratum in the cure of Rheumatism. To render this evident, we have only to reflect how often every mode of cure of that formidable disease proves abortive. It certainly must be ascribed, as well to the imperfection of the healing art, as to the obstinate nature of the disorder itself, that so many, in every rank, are subjected, during a great part of their lives, to the visitations of this horrible malady. Bandages bid fair to supply this deficiency. They are not like medicines exhibited internally, concerning whose operations and effects we are liable to form the most erroneous conclusions. Their effects are immediate and visible. We are not left at a loss to determine whether the good produced is to be ascribed to the efforts of nature, or to the remedy employed; nor is it a matter of doubt, whether the remedy is of real

advantage or not. There can be no uncertainty as to the powers of a remedy, which, the moment it is applied, enables a person to walk, who immediately, and for many weeks before, could not set the sole of his foot to the ground.

But were it even admitted that Bandages are applicable, with effect, principally in Chronic, it is evident that they may operate, in many instances, as preventatives, at least, of Acute Rheumatism. This is a fair inference from the girl's case above detailed. In her were present, though the symptoms did not run high, all the characteristics of Acute Rheumatism. But, by the timely application of Bandages, not only were the pains immediately relieved, but the fever soon after subsided. A most useful practical hint this,—shewing that, as the derangement of the system was occasioned by local affection, so the melioration of local symptoms had its

influence on those of the system. Here naturally arises the question, May not Bandages supersede the necessity of repeated detractions of blood in Acute Rheumatism, even when local affections are not the primary symptoms? At any rate, Acute Rheumatism is soon subdued by the lancet; and, if Chronic Rheumatism supervenes, the application of Bandages in this stage, will, we have reason to believe, prevent that lingering illness, general debility, rigidity, and coldness of the limbs, pain and stiffness of the joints, so often the *sequelæ* of Acute Rheumatism.

Every practitioner, surely, of even very limited experience, must have met with cases of Acute Rheumatism, in which the difficulty was, not to subdue fever, but to set the patient on his legs, and, having set him on his legs, to make him walk. In this stage of such cases, more benefit, I hesitate not to pro-

nounce, will be derived from Bandages, than from all other topical applications that have ever been prescribed by the regular physician, or advertised by the empiric.

But a mechanical remedy that possesses, in any degree, the power of moderating or preventing Acute, must operate with tenfold effect in cutting short Chronic Rheumatism. Every body knows that, whoever have once become acquainted with Rheumatism, may lay their account with a repetition of its visits; and the oftener it comes, and the longer it stays, it strikes its roots the deeper:—this to such a degree, as, in many instances, to render the patients miserable during its stay, and uncomfortable all the rest of their lives. The early application of Bandages, by promoting, in the way formerly stated, circulation in the capillaries of the white parts, prevents their perma-

nent obstruction, and consequently the disease from taking such hold of the system as to render it difficult afterwards to be eradicated. That Bandages, when early applied, must produce such effects, is proved by what they have done in Stewart's case; for, if they possess such powers in old inveterate instances of the disease, they must, *a fortiori*, be productive of like benefit in recent cases.

CASE X.

OF ALEXANDER HAY, aged fifty-five, complained to me on the 5th of April 1815, of pain, weakness, and rigidity of his left hand, wrist, and fingers. There was considerable effusion also in the palm of his hand, along the tendons of the fingers. Pressure on which occasioned considerable increase of pain. The patient, when attempting to shut his hand, could not bring the points of the fingers to within an inch of the palm; and even this effort could be made for a moment only. I first applied a Bandage to the wrist, and then pressed with my thumbs on the tendons of the fingers in the hollow of the hand, desiring the patient to clench his fist, which he instantly did with great power. I performed this experiment to convince the man at once,

which I found no reasoning could do, that Bandages alternated with Friction would effect a cure. This was a species of argumentation which the most incredulous could not long resist. For no sooner were the Bandages and Pressure applied than the patient saw and felt such a change, as to produce a conviction, that he had only to adopt the mode of cure prescribed, in order to recover entirely the use of his hand. I then applied a roller to the hand and wrist, beginning at the roots of the fingers, making the first turn under the thumb, and the second over the root of the thumb and metacarpal bone of the little finger. In this way, if the Bandage is drawn tight, the hand is, in a certain degree, folded longitudinally, which never fails to relieve pain that is seated among the tendons of the fingers and metacarpal bones.

I directed the patient to make diligent use of Friction, as often as he removed the Bandage, but not of that kind of Friction only which consists in stimulating the vessels of the skin. The pains in this case were deep seated among the bones, and therefore demanded a species of Friction calculated to promote circulation in the extreme vessels of the parts affected. For this purpose I directed to grasp, and nibble, and pinch the parts, however painful; pressing with the points of the fingers and thumb among the carpal, and between the metacarpal bones, and indeed, wherever the pains took lodgement. This process was at first very painful, but the longer it was continued, and the oftener it was repeated, it became less so, and the motion of the parts proportionally free. In six days, from the first application of the Bandages, did this patient recover, to his

own astonishment, the complete command of his hand. This, there is no reason to believe, he would otherwise have done, through the whole course of his life.

To those who may reckon this a bold assertion, I would recommend the inquiry, How persons, daily to be met with, the joints of whose fingers are enlarged, and the bones between the joints distorted, were affected in the first attacks of the disease? The reply would doubtless be, that they first experienced pain, enlargement, and immobility of the parts—that these symptoms were often alleviated by remedies employed for that purpose, and by the return of favourable seasons, but never entirely removed—that by repetition, they gradually gained ground; and became at last so fixed that no earthly power could remove them. Such also, but for the Bandages, would have been the case with Alexander Hay's hand. Nay,

what is bolder still, I venture to assert that, in the great majority of cases, lameness arising from Rheumatism, in parts susceptible of Compression, must be attributed, not to the irremediable nature of the disease, but to those concerned in the treatment—the patient or the practitioner. This is a conclusion fairly deducible, I think, from the history of the case under consideration. In it the affection was not of yesterday only. It had existed for a great length of time; had become worse by every repetition of attack; and was fast approaching to that state of permanent swelling of the joints, contraction and rigidity of the tendons, hitherto found incurable by any means that have yet been devised.

I dwell the longer on this case, because it was a most inveterate one,—because the cure of it is a triumphant instance of the power of Bandages above

all other remedies combined,—and the finest illustration that could be wished, of the theory we have endeavoured to establish—That the proximate cause of Rheumatism is an affection, chiefly of the cellular membrane, and that this affection consists in an atony, and consequent preternatural distention, or obstruction of the vessels of that membrane. This theory, indeed, is not assumed; it is a fair and legitimate deduction from the sensible effects produced from Bandages and Friction. It cannot for a moment be supposed that there is, in Chronic Rheumatism, any obstruction in those vessels through which red blood circulates. If that was the case, a species of inflammation would be induced that would soon run its course. Besides, the effusions that take place in this disease are always colourless. But circulation is impeded somewhere; otherwise, whence the swelling

and pain? Accumulation is essential to tumour, or, is another name for the same thing. And, accumulation cannot take place in vessels without their being simultaneously and proportionally distended. In Chronic Rheumatism, in fact, it is the atony or relaxation of the vessels of a part that is the cause of accumulation in, or swelling of that part. If, therefore, there is no obstruction in the vessels carrying red blood, and, if obstruction or accumulation exist somewhere, it follows that the capillaries, or vessels of the cellular membrane, are in fault.

From this view of the subject, the mode of operation of Bandages and Friction is plain and perspicuous. If Pressure is applied to compressible tubes, containing a circulating fluid, their diameter must be lessened, their Parietes must approach nearer each other, and the quantity of fluid they

contain must be diminished in proportion. Friction, which consists in successive acts of Compression, must greatly promote circulation in vessels to which it is applied; Bandages not only propel the contents of vessels preternaturally distended, but give to the latter permanent support, till they acquire a healthy tone. Hence the immediate diminution of swelling, and the relief from pain, in parts affected with Rheumatism, from the application of these remedies.

That Bandages and Friction produce their beneficial effects by promoting circulation in the capillaries, and absorption of effused humour, is a matter of ocular demonstration. If to a tumour recently formed, the consequence of, either a violent sprain, or, of Rheumatism, Compression, either by Friction or Bandages, or both, is applied, the swelling immediately subsides, and the

motion of the part becomes free. If it should be argued, that the subsiding of the tumour consists in a mere mechanical diffusion of its contents, through the cells of the *tela reticulata*; I would reply, that were it even so, this circumstance would greatly facilitate absorption of the fluid; but, that that does not sufficiently account for the fact, is proved, by Percussion producing the same effects, even when applied at some distance from the tumour. Thus, if effusion, in consequence of a sprain or Rheumatic affection, takes place on one side of the wrist, Percussion applied on the opposite side, in the palm of the hand, or a considerable way up the arm, quickly and powerfully accelerates absorption.

CASE XI.

ON the 20th April, I was called to a gentleman at the west end of Rose Street, whom I found labouring under symptoms of approaching Pneumonia; and calling immediately for the apparatus necessary in blood-letting, his landlady came into the room. On being told what I was about to do, she said she had as much need of having blood let as her lodger, but that she had a mortal aversion at the very idea of such an operation. On inquiry I found she had been at the bleaching-green, where she was instantaneously seized with a violent stitch in her right side, that compelled her to come home; that she had taken a small quantity of whisky, without, however, experiencing from it any relief. The pain was situate

between the top of the haunch bone and short ribs, right side, and stretched forwards and downwards to the bottom of the abdomen and along the inner side of the thigh. I told her I had not the least doubt of being able to afford her relief, without having recourse to the lancet; and taking hold of a handkerchief which was lying on the table, I tied it round her body as tight as she could bear; when she immediately declared the pain had abated. When I had finished bleeding my other patient, she requested me to draw the Bandage tighter. This took place at half-past two o'clock, and when I called at nine in the evening to see the gentleman, I found his landlady free from complaint and the Bandage laid aside.

Had I been ignorant of the happy effects of Bandages in the multiplicity of cases in which they are ap-

plicable, I would have treated this woman's complaint in the usual way, by blood-letting, blistering, &c. by which she might have been prevented from following her occupation for days; whereas, from the mode of cure adopted, she was not confined a single hour; nor was her system weakened in the least degree, or rendered more susceptible of impression from cold.

To report such cases as this, may be reckoned frivolous by some; but I submit it to the common sense of mankind, if, to prevent a serious disorder by so simple an application as that of a Bandage, is not a matter of the first importance? To the soldier, to the sailor, to the poor, to all who are at a distance from medical aid, the knowledge of such facts must be an acquisition of the greatest value. I am far, however, from asserting, that Bandages will prove a cure in every stage of such complaints

as this. On the contrary I am convinced, that had this patient delayed their application twenty-four hours longer, nothing short of the lancet could have availed. There is a wide difference betwixt the first attack, and an advanced stage of a disease—betwixt a purely topical affection, and a derangement of the system. I have again and again put a stop, by the timeous application of Percussion followed by Compression, to incipient inflammation,* arising both from contusion and from cold affecting the system in general. I have removed by Percussion alone, a stitch, situate between the short ribs and top of the haunch bone of my left side, when so generally affected with cold as to have severe headach, slight sore throat, and insufferable heat in the palms of my hands.

* See Note I.

These are facts, so far as I know, entirely new, and strongly corroborative of the hypothesis, That, in inflammation, the branches of arteries act with less force than the trunks from which they arise. For, if Percussion and Compression obviate incipient inflammation* by stimulating and supporting the vessels in which congestion is beginning to take place, (and it would be difficult to conceive any other mode of operation they can have), it may justly be inferred, that the action of the branches of an artery, in an inflamed part, is different from that of the trunk, and that this difference consists in the action of the former being diminished: in other words, that a Phlegmon owes its swelling and redness to relaxation of the branches, not to increased action of either these, or of the trunks

* See Note II.

of the arteries, that supply it with blood. For, if the elasticity of the trunks remain the same, while that of the branches is diminished, more than their due proportion of blood must be poured into the latter, without any increased action of the former.

But, independent of the facts, that Percussion and Compression, if timeously applied, will often obviate inflammation, all the symptoms that distinguish Phlegmon conspire to prove, that atony of the capillary blood-vessels is to be regarded as its proximate cause. On this ground, we have endeavoured to explain the swelling and redness; it remains to account for the pulsation and heat of the tumour. This I attempt, by the enumeration of a few facts, the truth of which daily observation and experience confirm.

We never hear, then, a patient complain of heat and throbbing pain in a

part, previous to that part being enlarged. When the pain and heat of a part first arrest the attention of a patient, a swelling or fulness of that part is then first observed. The fact seems to be, the swelling is the cause of the throbbing, and this of the heat of the part. When the minute vessels of a part become unable to propel their contents as usual, they suffer distention in proportion. Hence compactness and tension of the part ensue. But tension of a part gives resistance to the trunks of the arteries supplying that part, every stroke of which is felt with a force equal to the resistance. This we can imitate at pleasure. If we tie a cord about a finger, or a ligature about the arm, we instantly feel a painful pulsation where we felt none before; and if these ligatures were allowed to remain for any length of time, we would soon have heat in abundance.

If, therefore, temporary obstruction by ligature, occasion painful pulsation and increase of temperature, it is reasonable to suppose, that obstruction arising from congestion in the minute arteries of an inflamed part must be productive of the same phenomena. The increased heat, it is more than probable, arises from causes purely mechanical—depending on the same principle on which heat is produced in an anvil by the blows of a hammer. But, as in Percussion the particles of the body that strikes are put in motion equally with those of the substance struck, the action of the trunks of an artery entering an inflamed part must soon be increased; and if the part inflamed is extensive, its arteries will be proportionally numerous and large, and their excitement communicated with celerity to the heart. Hence the de-

arrangement of the system always accompanying extensive inflammation.

I have thrown out these ideas as they come in my way, founded, as they appear to me, on the facts of Percussion and Compression being capable, in many instances, of obviating spontaneous inflammation.

CASE XII.

AN A. LADY, in Hanover Street, was attacked, in April 1814, with a violent Rheumatic affection, at first in her shoulders principally, but a short time after, in her knees also, where it settled, producing the most obstinate lameness. During the summer she could walk very little, but after November came in, none at all. From this time she despaired of receiving benefit from medicine, and therefore had no advice for five months previous to my seeing her. I was called on the 2d of May (1815) to this lady, with whom I certainly would have attempted nothing, but for the resolution I had taken from the beginning, of putting my mode of cure to the severest trials that might occur; as the best

means of, at once, either establishing its reputation, or of disproving its utility.

This lady had not much pain, notwithstanding which, her flesh and strength had failed to a great degree: and, being naturally of a spare habit of body, her legs, which were permanently fixed in a slightly bent posture, were now reduced to little more than skin and bone. She could neither rise up nor sit down, nor, when sitting, raise her feet, especially the left, from the floor. When she put them on a foot-stool, it was by grasping each leg with both hands, a little above the knee, and lifting it up. It was impossible to make her stand, even when supported; for, her limbs being entirely passive, refused to do their office. When, therefore, she was lifted up for the purpose of being set upon her feet, she lay backwards in the arms of her assistant, in a posture, betwixt the erect and horizontal; and, when attempts were made to bring the trunk of

the body to a line with the extremities, her feet moved, or, were rather pushed, forwards before her, for she possessed not the power of setting one foot before the other; in other words, she could not make progress.

Such was the helpless and hopeless condition of this lady, when I first saw her—a condition which I could not promise to meliorate in any great degree. But as no harm could possibly arise, to any human being, from my mode of treatment, she was anxious to give it a fair trial. I therefore commenced my operations, by applying Friction all over the knee-joints; then by giving them motion; lastly, by surrounding them with Bandages. Motion of the joints, for a considerable length of time, at every operation, how small soever the extent to which they were capable of being moved, would, I hoped, promote the secretion of the synovial liquor in

their cavities, and thus increase the range of flexion and extension. This part of our operations was attended with very little pain, but a great deal of *cre-pitus*; a circumstance that, of all others, shews most clearly, the baneful effects of indulging, with perfect rest, joints affected with Rheumatism. There is no organ in the human body whose function is not promoted by exercise. There is more Saliva secreted in the time of chewing our food, than during all the other hours of the day and night.

For a considerable time this lady found no alteration from the treatment she underwent; except that, she felt fully more power in her knees when surrounded with the Bandages. After the lapse of about three weeks, however, this power was found to have increased imperceptibly, to a degree so considerable, that she could with great facility, lift her left foot, even to the height of more

than a foot from the floor. This was a degree of success far beyond what either the patient or myself expected, in so short a time. From this moment, therefore, we began to entertain more sanguine hopes of a favourable result to our exertions, than we dared indulge at the beginning. The consequence was, that what was begun with little expectation, was now prosecuted with a vigour inspired by certainty, of success. Still, however, little or no advance was made at standing; nor were flexion and extension perceptibly improved.

About this time, (early in June) I began the use of Percussion with some of my other patients, and with what success, may be seen in their cases. I therefore now applied it strenuously to this lady, and with the happiest effects. The flexor tendons became more pliant and elongated; flexion and extension of course more free. She soon acquired

the power of rising to her feet, and supporting herself in this position, by her hands thrown behind her, and resting on the arms of her chair. Then, when supported, she could make progress through the room; her limbs, however, still far before the *axis* of the trunk of her body. Her legs now became more plump in appearance, and firmer to the touch. By degrees the trunk of the body and inferior extremities approached to a straight line, and now she walked through the room with a person on each side supporting her. A short time after she attained this degree of improvement, her servant observed to her, that she felt not near so heavy as usual, that she was much more easily supported in her journeys through the room,—a circumstance, that indicated increased power in the limbs.

In the month of August I advised her to the country, and to ride out in a cart

as often as she could. From the roughness of this mode of gestation, I expected she would derive great benefit, and I was not disappointed. On the 3d day of September, I expressed a wish, as I had not seen her for some time, to see what progress she had made, since going to the country. At this, she started to her feet with great agility, and placing, at my desire, a hand on each of my arms, in order to give her steadiness, followed me slowly through the room. I now considered my efforts, in this case, as crowned with complete success, and that this lady required a little practice only, to be enabled to walk out, without any aid whatever. I did not visit her again till the 24th September, when she walked all over a large dining-room, with much greater confidence than before, and with a hold, by one hand only, of my arm.

Thus was this lady, after having lost the use of her limbs entirely, for five months, again put upon her feet, without receiving one particle of medicine internally.

CASE XIII.

A YOUNG Lady in the neighbourhood of Edinburgh, being overtaken, near home, by a thunder-storm, one day early in the month of August 1814, was making haste to escape into the house, when she made a false step, which brought her to the ground, with her left leg bent backwards under her. At first she thought her ankle was the part that had principally suffered; but a little time only elapsed, when she found her knee-joint to have sustained the most serious injury. From this time forward she was unable to lean her weight upon the joint, or to walk, unless supported by a person on each side. For nine months every thing was tried, at all likely to afford her relief, but without any evident advan-

tage. Latterly, blisters were prescribed, which discharged so copiously, as to alarm the patient's friends for her strength. They were therefore discontinued.

On the 11th of May 1815 I was called, and found her general health far from being firm; which, indeed, was the case previous to the occurring of the accident; and there is little doubt, had its influence in retarding the cure. The swelling was not great, but general, round the knee—more prominent on the outside above the joint, and puffy among the flexor tendons. In the sheaths of these tendons effusion had taken place, which was now condensed; and when rubbed, produced that *crepitus* so characteristic of Rheumatic affections of some standing, of the coverings of joints and tendons. For about a hand-breadth from the Patella upwards, and quite defined at the upper

edge, the Aponeurosis was thickened, hard, and exquisitely sensible to the touch. To such a degree, indeed, that the very idea of the weight of a feather resting upon it was quite intolerable to the patient.

At the inner side of the Patella, directly upon the joint, or, where the bones of the leg and thigh come in contact when the limb is extended, there was a point of great tenderness. At the back part of the joint, between the flexor tendons, there was another point, more puffy than the surrounding parts, and in which frequent lancinating pains occurred. The limb remained permanently, in a slight degree bent, and possessed a very small range of flexion and extension. The Patella was nearly fixed, and every attempt to move it occasioned great pain.

The friends of this young lady were extremely apprehensive that her complaint was White swelling. Nor

was it an easy matter to say, whether it was, or was not. Some symptoms, the two painful points, for instance, on the anterior and posterior surfaces of the joint, conjoined with the state of the patient's general health, strongly indicated something of this kind. Other symptoms, as the effusion in the sheaths of the tendons, the painful and thickened state of the Aponeurosis on the anterior part of the thigh, together with the fact, of cold always aggravating, and heat relieving, the pain, disposed me to consider the affection as partaking of the nature of Rheumatism, induced by the violence done to the parts. With this view of the case I commenced my operations, and with hopes of success, any thing but sanguine. The general tenderness and irritability of the parts, alive to every the slightest external impression, precluded, at first sight, the possibility of Compression.

After applying Friction, however, in the gentlest manner possible, I surrounded the joint with a Bandage, which the patient bore for an hour. Encouraged by the success of this first attempt, I proceeded in the same manner daily, for a considerable time, the Bandage gradually becoming much more sufferable.

After the lapse of about three weeks, symptoms of amendment began to shew themselves. I could now apply Friction with greater freedom; the patient could sit for hours together with both feet on the floor, or on a foot-stool; whereas, when I first saw her, she could not suffer the leg affected to be off the sofa on which she sat, for two minutes running. She could now walk a little without aid from any other person; the puffiness among the flexor tendons began to subside, and a *crepitus* was no longer perceivable there. The lancinating pain at the posterior part of the joint, became

less frequent and less severe ; the tender point on the anterior surface could also be handled with more freedom ; but the Patella itself still remained immoveable, and flexion and extension very little improved.

It was about this time (beginning of June) that I began the use of Percussion, and this young lady was among the first to whom I applied it. From this time forward, amelioration of all the symptoms was greatly accelerated. The Patella became easily moveable ; the flexor tendons elongated ; she could sit whole days with both feet upon the floor ; she could suffer the Bandage, day and night, without interruption ; she now walked through the whole house, planting her foot much more firmly, and with much less hesitation and dread ; and, about the middle of July, came down two pair of stairs, walked across the park into the garden,

and presented me with a rose. This she did in order to shew me the degree of improvement to which she had arrived ; and my feelings, on the occasion, may be more easily conceived than described. The consciousness of having rescued a fellow-creature, more especially a fine young woman, from despondency and distress, by a mode of cure, new, and entirely my own, was to me a reward of the highest consideration—a reward which it falls to the lot of few to receive.

CASE XIV.

MADAME REY DE LA RUAZ, a French lady, long resident, and well known, in Edinburgh, is the next whose case I shall relate. And I think I may venture to affirm, that there is not upon record a more brilliant instance of the power of any remedy, than is here exhibited, of that of Friction, Percussion, and Bandages combined. A disease that has existed a great length of time—so untractable as to yield to no mode of treatment hitherto pursued; that has sapped the foundations of the patient's constitution, making havoc of almost every part of the body, annihilating some, and impairing all, the functions of the extremities, must be admitted to be a test sufficiently decisive, of the superiority, to all others, of that mode of

cure to which it is found to give way. Upon this lady's case alone, therefore, could I produce no other, would I willingly rest the credit of my discovery; regardless alike, while I can appeal to facts, of the cavils arising from an affected distrust in new remedies, of some practitioners; and of the opposition, that proceeds from still worse principles, in others.

I was called to Madame Rey on the 15th May, (1815) when, without telling half of the truth, she gave me such an account of her situation as determined me to decline accepting of her as a patient. I was convinced I could do her no manner of service. When, therefore, she had finished her discourse, I took my hat and bade her good day. She told me I must not go away; for, though for a long time back she had lost all hope of ever having her condition meliorated, even, still she had con-

ceived so favourable an opinion of my mode of cure, that she was determined to give it a fair trial; and warned me not to regard the pain I might occasion her, nor to be discouraged by the little appearance of success that, for a while, might attend my exertions. For, said she, "if you should fail in the end, it cannot discredit your mode of cure with regard to other cases, less inveterate than mine. At all events, you will be in no other situation than some other practitioners, of the first eminence, who have preceded you." An address like this, it was impossible to resist, however vain the attempt might appear. Such candour and resolution rendered me totally regardless of the discredit that a complete failure, (and I anticipated nothing else,) might bring upon my method of curing Rheumatism.

Madame Rey inherited gout, she said, and was subject to it since she was

six years of age. And, some of her friends predicted, that should I succeed in relieving the affected joints, it would be at the expence of driving the gout into her stomach, which would kill her at once. No attention, however, was paid to these representations. I proceeded to examine the state of the parts of which she most complained. All her fingers were extremely weak, some of them swelled, others so exquisitely painful, that she could not suffer them to be touched. At my first visit I touched, by accident, the point of her right thumb, which almost occasioned fainting. She could not lift a wine glass with one hand, but she contrived to do it with both, by turning their backs to each other. Both wrist-joints were stiff and painful, but the left could not be moved without the greatest suffering. Both elbow-joints were greatly affected. The left

did not possess half the natural range of flexion and extension. On each Humerus, immediately above the inner condyle, a large tumour was situate, so painful that it could not be touched, without making the patient cry out. All the muscles covering the Humeri were, from origin to insertion, rigid, knotted, thickened. The Deltoid muscles felt like two boards; the connections of the Clavicles with the shoulders, and the joints at their flexures, the patient could not suffer to be touched. She could not lift a hand to her head. At the under and back part of the right Scapula, there was an extremely painful tumour, that prevented all motion of that bone; and a little farther down, on the opposite side, was another still larger. From these tumours, pains shot along both sides of the spine to the muscles of the neck, rendering motion of it, and of all the interme-

diate and neighbouring part extremely difficult. At the top of each haunch-bone there was a large, painful tumour. Particular points of the Sacrum and its connections, especially with the Coccyx, were so tender, that they could not be handled but in the most cautious and delicate manner. The weight of a finger, rashly applied, occasioned the most excruciating torture. All about the hip-joints, great Trochanters, as also the origins of the muscles of the thigh, were extremely painful. The muscles themselves were, through their whole course, tender to the touch, and painful on being compressed. On the outside of each thigh, a little above the knee-joint, there was a tumour of considerable size, and extremely painful. The Fascia of the muscles and sheaths of the tendons were thickened, knotty, and puffy. The flexor muscles were so contracted, that their tendons were to the joints, as the

string is to the bow. The coverings of the joints themselves were thickened, puffy, and extremely tender; the range of flexion and extension, of course, very small.

I was not a little surprised, when Madame Rey first shewed me her legs, to find them tightly surrounded with a flannel roller. I asked her how long she had used Bandages, who suggested them, and for what purpose? She told me she had used them for five years; that they were recommended by a young gentleman of the medical profession who lodged with her, with the view of obviating a distressing oedema (watery swelling) of her feet and legs;—that she found they prevented the accumulation of water;—that after it was absorbed she continued them as a preventive;—and that, when afterwards the pains became severe, she found she could check them by increasing the

tightness of the Bandages. Here, then, was a strong corroboration of my practice—such a corroboration as I have met with in many instances. But what did the knowledge of such facts signify? They were made the foundation of no structure—no practice was instituted upon them. It is plain that in Madame Rey's case, Bandages were neither recommended nor adopted, as a cure for Rheumatism. That they were beneficial in this respect, she discovered by accident, but never dreamed they were applicable beyond her own person. The knowledge, therefore, that Madame Rey, her adviser, and all others that I have met with, or heard of, concerning the advantage to be derived from Compression in Rheumatism, is similar, but inferior, to that of the barbarian in regard to his sling. He is well acquainted with its projectile powers, in the hands of every man that can manage it,

though totally ignorant of the laws of centrifugal force.

That Madame Rey had no just idea of the use of Bandages in Rheumatism, was proved by the dreadful effects produced on her limbs, by their improper application. Finding she could check paroxysms of pain by increasing the Compression, she continued the Bandages as a preventive; and applied them, daily, so tight, that it was astonishing her limbs had not mortified long before I saw her. As the case stood, her feet and legs had not the appearance of the rest of her body, which was moderately plump. Livid in some parts, and of a tallowy, death-like whiteness in others, they had more the appearance of the limbs of a mummy, than of a living being. It was with great difficulty, notwithstanding, that I persuaded Madame Rey, she had done almost irreparable mischief by her Bandages—that

in her hands they had produced effects the very opposite of those for which I prescribed them. Bandages, when properly applied, powerfully promote circulation in parts affected with Rheumatism; Madame Rey applied them with a degree of tightness that prevented circulation, almost altogether.

What muscular substance remained on the bones of this lady's legs was hard and knotty—partly, I presume, from general obstruction of circulation, partly from the inequality with which the Bandages were applied.

Such was Madame Rey's condition when I first saw her. Her head, and a small part of the anterior of the trunk of her body, were indeed the only parts free from disease; and she had not walked a step for eight years! It must not be imagined, however, that I discovered all her complaints in one day. Weeks

had elapsed before I ascertained the one-half of them. This need be no matter of surprise; for there were many parts which the patient had no idea of being diseased until they were examined. I therefore began with the most obvious, and had the satisfaction of removing, in a few days, the pains from the fingers; so that she could grasp any thing with her hands, assist at dressing and undressing herself, and do many things about her person of which she was before incapable. This she considered a most valuable improvement. It inspired her with new hope and fresh courage. Still the pains of the wrist, elbow, and shoulder-joints were severe; the tumours at the inner condyle of the Humerus, and on the back, were undiminished; and the muscles of the arm rigid and thick. Soon, however, the pains in these parts became more moderate, and the tumours began to de-

crease. The muscles became thin and pliant, and the motion of all the joints of the superior extremities much more free. I have before observed, that when I was called to Madame Rey she could not put a hand to her head. By the application of Friction, Percussion, and Bandages, she was enabled in the course of a month, to clasp her hands behind her neck; to throw a shawl round her with great facility, and to sew for hours together.

The inferior extremities proved much more obstinate. The tumours on the outsides of the thighs, the thickness about the joints, and rigidity of the flexor tendons, resisted, for a long time, every exertion. About midsummer, however, a decisive advantage was gained over all these affections. About this time (end of June) I had prevailed on the patient to lay aside the Bandages from her legs altogether. The effect

was wonderful. The limbs quickly acquired a natural, healthy colour, and a plumpness proportionate to the rest of the extremities. Having gained so many advantages, I thought my patient ought now to attempt the use of her legs. It was all in vain. They would not support her. I inquired if her feet, of which she had not complained, were in a serviceable condition? She said they were. When I applied Percussion to the soles, however, she changed tune. They were extremely pained. They had been tied up in the same manner as the legs, to an excessive tightness. Percussion roused their dormant powers to action; which was attended, at first, with excruciating pain, but no sooner was circulation re-established, than the pains disappeared. Having, in a few days, removed the pains from the feet, I again put the limbs in a state of requisition; but they refused to serve. The cause of this

inability to stand, I was at some loss to explain: for the patient had now the command of her feet, of her legs, and of her knee-joints. I had frequently, from the beginning of my attendance, inquired if she had any complaint about the hip-joints, the back, or the seat-bones? She always replied in the negative. I now represented the necessity of ascertaining these points, when I discovered the facts above related. It may appear surprising this lady was not more aware of the number and extent of the evils under which she laboured. But this, I apprehend, is to be accounted for, from the inaction of the parts for so great a length of time. Besides, it is well known, that in many instances, Rheumatic pains, after having raged and committed the most dreadful havoc, for many years, disappear entirely, without any known cause, leaving the patients emaciated, debilitated, crippled. If, in

such cases, attempts are made to renew circulation in the parts that have suffered, we may, *a priori* conclude, that such attempts will be attended with pain.

Having ascertained, what I long suspected, that one great cause of the inability of my patient's limbs to support her body, was referable to the origins, and neighbouring parts, of the muscles arising from the trunk; I applied my mode of cure with great and rapid success. The first proof of the limbs having acquired some strength, was the patient's being now (middle of July) able to rise from her chair without aid. This she could no more have done when I first saw her, than she could have sprung into the moon, at a leap. When the weather set in very warm, her whole frame became extremely relaxed and feeble: and, about the middle of August, she contracted a severe cold, which threw her into a fever of some days'

continuance. From these causes combined, her farther progress in regaining strength, was retarded for a long time. In such circumstances, we were very glad we could preserve the advantage already obtained. After September came in, and that she had enjoyed a fortnight's relaxation from teaching, my patient again started, and has ever since held on her course most gloriously. About the middle of this month (September) she began to walk across her room upon Crutches. Soon after this, she came to use one Crutch only, leaning on another person with her other arm. About the end of the month, she stepped out, a few paces, without Crutches, stick, or any aid whatever. In the first week of October, she laid aside, in a great measure, her Merlin chair. Now, (14th October) she makes short journeys through her room, sometimes with a stick in her hand, sometimes without;

and, when she has occasion to go from room to room, she uses her Crutches. The Bandages are all laid aside except to the knees.

Thus, to the astonishment of man, woman, and child, who knew her former condition, have I made a complete cure of Madame Rey, by Friction, Percussion, and Compression alone. She never received a particle of medicine from me, a few laxative pills and a saline julep when she was feverish, excepted. But surprise at this lady's recovery must be greatly heightened, when it is considered, that I had to contend, not only with a most inveterate disease that had, before I saw her, baffled the efforts of some of the most eminent practitioners in Edinburgh; but with circumstances, in their nature extremely prejudicial to the health of all who are exposed to their influence. These were, a small, ill-

aired house, and confinement from teaching, from nine o'clock in the morning, with very little intermission, till seven in the afternoon. Her rooms were so close and suffocatingly hot, that she took others in George Street, to which she entered at the beginning of September. From this time forward she acquired strength rapidly. There is, indeed, every reason to conclude, that had Madame Rey had nothing to do, from the time I first saw her (15th May) but to take care of her health, she could have walked abroad by the middle of July.

I congratulate this excellent, meritorious woman, upon her restoration to independence; I congratulate those who are still martyrs to Rheumatism; I congratulate all mankind, that a cure is at last discovered, for one of the most harassing and painful dis-

eases to which human nature is liable,
—a disease, in its nature so obstinate,
as to have hitherto set at defiance, the
utmost efforts of the healing art.

CASE XV.

JENNY MORE, aged twenty-three, complained on the 18th May 1815, of general weakness, langour, and sickness, preceded and accompanied with swelling of her feet and pain in her ankle-joints, which rendered her very lame. Her tongue was foul, and she had some degree of fever. She had a Rheumatic fever about twelve months before ; when her surgeon told her she might lay her account with frequent attacks of the disease, in one form or another, unless she took the greater care of herself. The recollection of this caution, made her apprehensive of being again laid up, at a distance as she was, from all her friends. I was visiting, at this time, in the family where she served, and where she had all the comfort, and re-

ceived all the attention and kindness, she could desire.

I ordered her two drachms of Epsom salts, morning and evening—to be continued for some days. Percussion and Bandages were, at the same time, applied to her feet and ankles, when she immediately walked much better. This operation was repeated daily, for about a week only, when her sickness, languor, fever, pains and swelling of her feet, left her, and she walked with perfect ease and freedom.

In this case, I am convinced, the timeous application of Percussion and Bandages prevented an attack of Acute Rheumatism. For the derangement of the system must be considered as entirely symptomatic. And though the neutral salt may have contributed to lessen the phlogistic diathesis of the blood; it cannot be supposed to have been capable of removing, so quickly at

least, the pains and swelling from the feet and ankles. Had I not been visiting, therefore, in the family at the time, it is more than probable, the girl would have held out as long as she could possibly have done her work. Her complaints, in the mean time, would have gained ground rapidly, and would have terminated, there is little doubt, in the Acute form of the disease, under which she laboured. Here, then, is another instance of the truth of our inference, That, were it even admitted that Bandages were applicable with effect, principally in Chronic, it is evident they may operate, in many instances, as preventives, at least, of Acute Rheumatism.

Some weeks afterwards, this girl got a Rheumatic affection in her loins, stretching downwards, to the connections of the Os Sacrum, on both sides. When she called on me I desired her

to shew me how she could stoop. She came down, with the points of her fingers, to about the middle of the leg, but could by no means reach the foot. I applied Percussion all over the parts affected, when she immediately touched, with her hand, the point of her shoe. I desired her to call on me every day, till the pain should be permanently removed; but she did not make her appearance again; and when I enquired, some time after, into the reasons of her conduct, she said, that the pain never returned, and that, therefore, she did not wish to give me any farther trouble.

CASE XVI.

ON the 9th June 1815, I was called to Perth, to visit J. C. Esq. who had for four years and a half been afflicted with Rheumatism to a most distressing degree. To that degree indeed, that Dr. Wood, in a letter to me, dated 30th May, describes him to be "so lame that he cannot move, nor can he bear to be moved or touched without crying out. Many of the joints are enlarged, and his fingers in particular much distorted; in fine, you can scarcely conceive a person in a more miserable situation.—In my opinion, his case is quite desperate.—To add to all his other infirmities, Mr. C. is about seventy years of age."

Such is the outline given by Dr. Wood, of the situation of his patient:—More particularly—From rigidity and

swelling of the muscles of the left side of the neck, Mr. C.'s head inclined a good deal to the right, and was incapable of rotatory motion. He complained also of pain, and of an uneasy burning sensation along the whole spine, but particularly between the shoulder-blades, rendering motion of the shoulders and trunk of the body quite intolerable. The left shoulder-joint was pained and enlarged, but still capable of motion. Both elbow-joints were enlarged, and painful to the touch; the right possessing a little, the left no motion whatever. The right wrist-joint was moveable in a slight degree, the left appeared completely ankylosed. The fingers of both hands were distorted in every direction. Two of them were turned almost perpendicularly upwards, a circumstance I never witnessed or dreamed of before. In one word, it is impossible for imagination to paint the havoc

Rheumatism had made of this gentleman. He could not stand, on account of weakness of his knees, which were enlarged and red; and when struck with the fingers, produced, not a *crepitus* only, but a rattling as of dice in a box, or of bones in a bag, unconnected with each other. The ankle-joints possessed pretty free motion, but the feet and legs were œdematous and knotty.—To attempt to remedy such a case as this, appeared, at first sight, to be presumption and folly.

On being introduced to Mr. C. I desired him to touch the point of his nose with the thumb of the left hand. This, he assured me, it was utterly impossible for him to do; not having had any such command of his arm for years past. I insisted he should make the attempt; which he did, but in vain. The only effect produced was excruciating pain of the elbow-joint; for he could not raise

his arm from the support on which it rested. I grasped his elbow-joint with my right hand, embracing those points in which he felt pain on attempting motion; when he gradually raised his hand to his face without any other aid than mere Compression. This he did four times successively, in the way just stated, and twice without any assistance whatever. All this happened in ten minutes time from my being introduced to Mr. C. Having applied Friction and Percussion, with a freedom which neither Mr. C. nor any of his family imagined he could have suffered, I surrounded the extremities with Bandages, which he bore without inconvenience. The same mode of treatment, Bandages excepted, was applied to the back and neck with the happiest effects.

June 11th.—Feels general uneasiness to-day, with increased pain of the joints. Wind changed, during the night, from

south-west to north-east. Weather cloudy, with heavy falls of rain. Barometer below changeable, and falling. Ordered at one o'clock P. M. the legs and arms to be pressed and grasped above the clothes, and Percussion to the joints. These removed the sense of weight and uneasiness under which the patient laboured, and produced lightness and cheerfulness of spirits; so that he spent the remainder of the day very agreeably. As Mr. C. did not complain of pain in the left wrist-joint, which was immoveably fixed, Dr. Wood and I concluded that complete Anchylosis had taken place. I notwithstanding treated it on the supposition that we might be mistaken on this head; and had the happiness to effect very perceptible motion of it to-day. This, in my opinion, is to be attributed in a great measure to the Percussion employed. Bandages and Friction, if they could have pro-

duced such effects at all, certainly could not have done so, in so very short a time. And, though this is by no means the first instance in which I have successfully employed that mode of cure, yet its application was here so quickly and decisively efficient, that I think this the proper place to give my reasons for adopting it.

Ever since I discovered the utility of Bandages and Friction, in the cure of Rheumatism, I never failed to give relief where the disease was recent, when it was seated chiefly in the muscles, or, where the joints were only superficially affected.—But where the disease was of long standing, and had struck its roots deep into the joints; or, when considerable effusion had taken place, I frequently found this mode of cure, if at all applicable, very slow in its operation. This cannot be matter of surprise to any one. The irregular surfa-

ces of joints often preclude the possibility of compressing the very parts in fault. Articular surfaces, synovial glands, can neither be compressed by Bandages nor stimulated by Friction.* Besides, the coverings of joints are often so thickened and tender, as to render Compression, in any degree, intolerable.

In this state of things, I did not despair of being able to attack Rheumatism, in even these its strong holds. Reflecting on the well-known practice of exposing to a fall of water, limbs that have been severely sprained, for the purpose of reducing the swelling, which often in such cases continues for a great length of time, and of restoring tone to the parts ; I concluded that such effects depend entirely on the concussion produced. By this means a tremulous

* See Note III.

motion is given to the minutest vessels, which are thereby excited to action. Hence circulation and absorption, formerly in a languid, are now restored to a healthy state. Therefore, as the debility and effusion consequent on violent sprains, are extremely similar to the debility and effusion accompanying many cases of Rheumatism, it occurred to me, that if motion similar to that produced in a sprained limb by the dashing of cold water upon it, could by any means be communicated to the internal parts of joints affected with Rheumatism, equally beneficial results might be obtained in the one case as in the other.

I was the more confirmed in this opinion from the consideration also, of the great benefit derived by Rheumatic patients from riding on horseback. For, it is extremely probable, the good thus

obtained does not depend* so much on the quantum of perspirable matter thrown out of the body, as upon the gentle and equable stimulus given to every part, by the jolting motion. To imitate these, therefore,—the motion produced by the dashing of cold water on a particular part, or, that communicated to the whole frame by the motion of a horse, now became the *Desideratum*.

For this purpose, nothing appeared to me so well adapted as the *vis percussiois* gently applied. This, I thought, might overcome the *vis inertiae* of the vessels situate beyond the reach of Compression. I made trial of it, and found it to exceed my most sanguine expectations. I have often by this means produced, in a joint, almost instantaneously, a degree of motion which Friction and

* See Note IV.

Compression would have required many days to effect. I have often, at the first visit, and in a very short time, given motion to the Patella, which had been fixed for months before. The disadvantage arising from the difficulty of applying Bandages to the shoulders, to the whole of the spine, to the upper parts of the thighs, now disappeared. I have again and again, of late, made people, who, on account of Lumbago, could not stoop so far as to reach their hands to their knees, plunge to the ground with both hands at a time, and this in a very few minutes.—Percussion reaches every part, stimulates every vessel, and demonstrates, by its effects, the justness of our Theory, That the proximate cause of Rheumatism is impeded circulation in the capillary vessels.

June 17.—Having succeeded in instructing Mrs. C. and a principal servant, to go through all the operations

necessary, I left my patient to-day; and, in a state very different from that in which I found him.—His head which was fixed to one side, now possessed free rotatory motion—the swelling of the neck almost gone—the pain of the spine which confined the trunk to one posture, entirely removed—the left elbow-joint much less pained, and possessing a much greater degree of motion. Mr. C. was always helped to snuff before, but can now take it without aid—can help himself to bread and take a glass of wine with his own hand. His legs are much more pliant and soft—he can move them backwards and forwards with freedom, and stamp with his heels upon the floor.—He can now be lifted to change his position, without much uneasiness; which, owing to the pain of his back and arms, occasioned formerly, inexpressible torture. In one word, the condition of this gentleman

has, in the course of one week, been so meliorated, that he can now spend his time agreeably to himself and all around him.

CASE XVII.

ELIZABETH MACKENZIE, aged twenty, servant to a Farmer at Kilsyth, near Glasgow, was seized, in the depth of winter, (1814-15) with a variety of inflammatory complaints, which terminated in a Rheumatic affection of her feet and legs, that deprived her of their use, for the space of four months; and might have done so, for aught I know, for as many years, if not for life, had she met with no other than the usual treatment of such complaints. She remained in her master's, after being taken ill, for about two months; and through his humanity, had the benefit of medical aid from Glasgow. As, however, there was no appearance of recovery, she was sent, about the beginning of May, in a covered cart, to her friends in Perth;

where she remained, attended by very respectable practitioners, till the 9th of June, without experiencing any advantage.

Alarmed with the idea of being a cripple for life, she now resolved to try the Royal Infirmary. With this intention, she came to Edinburgh about the middle of June; and from the circumstance of my knowing her father when he was in the army, applied to me for a certificate. I was in the country, and she waited a week, till my return. The first look I got of her, convinced me she was in for consumption; and in this opinion I was confirmed by the history of her complaints. They commenced with spitting of blood.

When about to write out her certificate, I chanced, without the least intention that she should become my patient, to say, that had her complaints been merely Rheumatic, I might, per-

haps, have rendered her application to the Hospital unnecessary. She caught my words, and insisted to be taken under my care. At this time she walked with as much difficulty as it is possible to conceive of any human being, at all capable of locomotion. But having applied Friction, Percussion, and Bandages, to the ankle-joints, the chief seat of her complaints, she stepped out tolerably well. She underwent this operation, for a quarter of an hour, four successive days only, when she walked as well as ever she did in her life; and two days afterwards, laid aside the Bandages entirely. From this time forward, her general health, from being able, I presume, to take air and exercise, steadily improved. So quickly, indeed, was it re-established, that, instead of returning to her friends, she took service in the vicinity of Edinburgh. I have seen her every fort-

night since, three or four times successively,—she has had no return of her pains—is plump and strong, enjoying as perfect health as she can desire.

CASE XVIII.

NEARLY allied to the above case, was that of Mr. Donald Coghill, merchant in Thurso; who, having caught a violent cold in the spring, was, in the end, completely incapacitated from walking, by a Rheumatic affection of his ankle-joints and soles of his feet. Before I saw him, which was in June 1815, he had been ill for a month or six weeks, and had undergone, with little advantage, the treatment usually employed in such cases. His medical adviser, a most respectable gentleman, barely permitted his patient to come up to Edinburgh, as was his custom annually; telling him, according to the report of the latter, that, as he would not have occasion to walk much, the jaunt would

amuse him, and could do him very little harm.

Every other practitioner, I believe, would have acted in the same way. But what does this indicate? It demonstrates that, the true nature of Rheumatism is not yet understood. Hitherto, patient and practitioner have conspired, to spare the parts affected. This is to confirm, not to cure,—this is to rivet, not to remove, the disease. For, if Percussion and Compression are beneficial, in proportion only as they facilitate motion (and few, I presume, will now deny this), it must be admitted that, indulgence and rest are the very food of Rheumatism. Several days before Mr. Coghill arrived, his father, also a merchant in Caithness, gave me a most piteous account of the situation of his son. After enquiring minutely into the circumstances of the case, I told the old gentleman, that I

had no doubt of being able, in a very short time, to make his son travel home, on foot if he pleased, to Johnny Groat's House. When the patient made his appearance, I found the pains of which he complained, lodged in one foot, among the Tarsal bones, towards the inner side; in the other foot, among the Tarsal bones, striking through the heel, and along the sole. He was very lame. I applied Percussion and Bandages, with immediate good effects. This process was repeated for some days with increasing advantage; till one evening, in going through the operation, the patient himself used a degree of force that did him great injury. Next day he walked with great difficulty. What was very singular, however, he immediately felt greatly relieved, on having Percussion applied gently, for some length of time. This gentleman was under my care, not lon-

ger altogether, than ten days, during which he walked, on account of business, a great deal more than he ought. Had not this been the case—had he contented himself with a degree of exercise becoming a convalescent, he would have been perfectly well before he left this place. As the case stood, however, he was so near being completely well, that a stranger would not have perceived any defect in his gait.

I received a letter from this gentleman, dated Thurso, 12th September, in which he states, That as soon as he got home and took moderate exercise, he got perfectly well.

CASE XIX.

JUNE 29, (1815,) Mr. Thomas Lawson, aged eighteen, was laid up on the 24th, with Rheumatism over almost all his body. Pulse, to-day at ten o'clock A. M. 96; skin hot, although covered with a profuse perspiration; tongue white; bowels rather costive. Has no motion of the right arm on account of excruciating pain in the shoulder.—Cannot move his legs in the least degree.—Both extensor and flexor muscles of the thigh slightly pained at their origin, but at their insertion cannot be touched.—Considerable effusion all round the knee-joints.—Left ankle-joint and Tendo Achillis much pained.—Lies in bed, in short, like a log of wood, without the least command of either trunk or extremi-

ties, left arm excepted. Applied Percussion and Bandages.

Nine o'clock P. M. Can move both legs.—Swelling of the joints has subsided considerably.—Can suffer them to be handled with freedom, the pain being much less acute.—Let him take an ounce of Epsom salts at bed-time.

June 30. Medicine operated six or seven times.—Pulse 90, Perspiration still copious but much less profuse. Heat of the skin still considerable; notwithstanding which, thirst is much less urgent. No pain in the knee-joints—some still remaining in the left ankle and Tendo Achillis, but much less than yesterday.—Pain of the right shoulder much abated.—Possesses complete command of the whole body. I was informed at nine o'clock this evening, that he had been up several times in the course of the day, and walked through the room.

July 1. Pulse 90.—Heat of the skin still more than natural; belly costive—no return of pain to the knees;—gone from the shoulder, the motion of which is perfectly free. Has considerable effusion, with pain, in the right wrist-joint, and for a considerable way above it; having fallen asleep in the night with the right arm, uncovered, thrown round the head.—In every other respect much better.—Take an ounce of Epsom salts immediately.

I seized this as a favourable opportunity of ascertaining, by ocular demonstration, the effects of Percussion. Before I began, the patient's hand was quite open, nor had he the least command over his fingers, which were extended at full length. Percussion was not applied, however, for more than five minutes, when he not only shut and opened his hand with considerable free-

dom, but to his great surprise, the swelling of the part visibly decreased.

July 2. Pulse 80; tongue clean; heat natural; belly regular. Still some trifling pain, on attempting motion, in the left wrist and ankle-joints. In every other respect quite free from complaint. Continue the Bandages. *R. Decoct. Cinchonæ ℥i. Capiat ℥ii. sexies indies.*

July 3. Is free from complaint.

July 4. Met him on the street to-day, in prosecution of his business.

This, I presume, few will have the hardihood to deny, to have been as well marked a case of Acute Rheumatism as ever came under the care of a Physician. And, if this is admitted, it unavoidably follows, that Bandages and the other mechanical means employed, are not only admissible in Acute Rheumatism, but that they operate with a celerity and an effect, unexampled in the history of the disease.

This lad, eighteen years of age only, has had, previously to this, six serious attacks of the same kind,—the last of which, about twelve months ago, lasted ten weeks. On the present occasion, he was confined four days only, after I saw him; and all the medicines prescribed, were two ounces of Epsom salts, and an ounce of Bark in decoction.

I am extremely happy to present my readers with a case of the same complexion, treated on the same principles, and with equal success, with that of Mr. Lawson. It is by a gentleman of whose name and residence I am totally ignorant, and who must, therefore, be considered as disinterested, as he seems to be a candid, Observer.

CASE XX.

FROM NO. 199 OF THE LONDON MEDICAL
AND PHYSICAL JOURNAL.

*Remarks on the Beneficial Effects of
Compression in Rheumatism, as re-
commended by Dr. BALFOUR; with a
Case.*

HAVING observed, in your Critical
Analysis for July, the brief notice of a
paper contained in the Edinburgh
Journal for April, on Rheumatism, by
Dr. Balfour, I wish to excite particular
attention thereto, through the medium
of your widely-circulating Journal, as
replete with many valuable practical
remarks, and as recommending a new
and apparently superior mode of treat-

‘ing an excruciating painful disease,
‘alike relieving the torments attending
‘its acute form, and, in many cases,
‘preventing the pain and inconveni-
‘ces inseparable from its chronic state.
‘The treatment consists in the applica-
‘tion of pressure to the inflamed parts,
‘conjoined with the antiphlogistic plan.

‘Since my perusal of Dr. Balfour’s
‘cases, I have had an opportunity of
‘making trial of Compression, in two
‘cases, with the most complete success,
‘which I here subjoin, in confirmation
‘of the practice recommended by the
‘respectable originator.

‘April 16th, I was requested to visit
‘a young woman, aged twenty-five, on
‘account of Rheumatism. I found her
‘seated, with her right leg placed upon
‘a chair; and learnt the disease was
‘seated in that ankle, which was ex-
‘tremely red, very hot and painful, and
‘much swollen. On her attempting to

‘ put her foot to the ground, at my re-
‘ quest, she was forced to scream, from
‘ the violence of the pain it occasioned,
‘ and could not do it. Tongue coated,
‘ pulse 110; then hot. I made a gentle
‘ pressure upon the inflamed part with
‘ my hand, which gave much pain; but
‘ as I increased the pressure, the pain
‘ diminished; and, when firm and strong,
‘ she said the part was altogether easy,
‘ as Dr. Balfour has related in a similar
‘ case. Thinking this a favourable case
‘ for the trial of a Bandage, I imme-
‘ diately applied a roller *firmlly* around
‘ the ankle, commencing from the toes,
‘ and extended upwards to the knee.
‘ I then requested her walking up stairs
‘ to her bed-room: (three stories high)
‘ She smiled, and said, You know I can-
‘ not bear it upon the ground. I told
‘ her to try again; and she went up
‘ stairs, lame certainly, but with a firm
‘ step, and did not appear fearful of

‘ bearing fully upon it. Complains also
‘ of some pain in the right knee, and in
‘ her back. I gave her Magnes. Sulph.
‘ cū. Infus. Sennæ; and left directions
‘ that she might undertake her usual
‘ routine of employment the next morn-
‘ ing, (being a servant) if she felt able
‘ and disposed. Nevertheless, I confess
‘ I was astonished, on repeating my vi-
‘ sit next day, (April 17th) to find the
‘ door opened to me by my patient, who
‘ had arisen at her usual time, and per-
‘ formed her domestic duties. Has had
‘ a good night; tongue cleaner; pulse
‘ 90, and softer; ankle nearly free from
‘ pain; the opening medicine has pro-
‘ cured four stools; no increase of pain
‘ in the knee or back; ordered a saline
‘ mixture. April 18, ten o’clock A. M.
‘ Has had a return of pain in the last
‘ two hours, which I found to originate
‘ from the Bandage being loose. The
‘ redness and swelling nearly gone;

‘ pulse 80; tongue moist; re-applied
‘ the roller; pain in the knee and back
‘ gone. The next day, all appearance
‘ and feeling of the disease had disap-
‘ peared. She continued to wear the
‘ Bandage a week, and then discontinu-
‘ ed it. This woman was confined three
‘ weeks by the same disease, six months
‘ prior to the afore-mentioned attack,
‘ under the usual remedies.

‘ The second case was every way si-
‘ milar to the above, excepting the site
‘ of the disease being in the wrist, and
‘ its giving way rather more tardily.’

CASE XXI.

Mr. G. a gentleman who has now (1st November 1815,) completed his eightieth year, applied to me on the 11th of July last, oppressed with a complication of evils. Six months before, he was seized with Lumbago, which confined him for two months. The first time he went abroad, he had the misfortune to fall in the street at full length; from which he received very considerable injury in the parts surrounding the hip-joint, and likewise at the origins of the muscles arising from the Pubes. By this accident he was reduced to walk on Crutches; which he did for two months, even in the house. He could not go from the dining-room to his bed-chamber, without them. He was now advised to try the Warm-Bath; and re-

paired accordingly to Portobello, where he staid six weeks, bathing every second day, but returned without having experienced any benefit whatever. I saw him for the first time, the very day he came home. His complaints were seated behind the great Trochanter, and in the external cavity, towards the Crest, of the Ilium, of the right side, and reaching up the loins. But the circumstance that created the greatest uneasiness in the patient's mind was, the injury he had received about the Pubes. He could not get rid of the apprehension, that the pain he experienced from this quarter, though by no means so severe as those arising from the other injured parts, was the harbinger of some of those deplorable diseases, to which the parts in the neighbourhood of the Pubes are liable.

Having ascertained precisely, the site of the pains of which my patient complained, I applied Friction and Percus-

sion, alternately, for a short time, to the parts behind. I then directed him to lie upon his back and to draw up his knees, inclining the right thigh inwards, in order to relax the Adductor muscles. In this way, and as Mr. G. is a spare made man, I easily reached, with the points of my fingers, the seat of the pain on the Pubes. I in some degree separated even, the muscles from each other, and subjected to Friction, betwixt my finger and thumb, their interstitial cellular substance. This was attended with the most beneficial effects—a circumstance strongly demonstrative of the justness of our Theory. By these means, therefore, and by Friction applied to the Pubes, I completely removed, at my third visit, the pain from this quarter; and with it, all uneasiness from the patient's mind with regard to ulterior evil.

When I finished my first operation, Mr. G. walked from his bed-room to the dining-room, with a single stick in hand ; whereas he could not, ten minutes before this, move a step without a support under each arm. I visited this gentleman for ten days successively ; at the end of which he walked abroad, with cane in hand, as cleverly as most men of his advanced age can do, who have no complaint whatever.

When Mr. G. met with the accident above related, one of his shoulders also received so much injury, that he was incapable, ever after, of putting on or off his clothes without aid. At my third visit he mentioned this circumstance, when I desired him to shew me how far he could go in putting off his coat. He threw back the neck of it so far as to uncover his shoulder, but here he was fixed. He could not draw his arm out of the sleeve. Marking the

spot where he felt the obstacle to the farther motion of his arm, I returned the neck of the coat; and before I touched the part affected, assured him I would make him put it (his coat) off in less than five minutes. I accordingly applied Friction and Percussion, but especially the latter, for a very short time, when the patient put off and on his coat with ease; and has done so ever since without aid of any kind. Thus, in the course of ten days, was this gentleman, at an age at which few, comparatively, of the human race arrive, restored to the complete command of all his extremities, after having been deprived, in a great measure, of the use of some of them, for the space of four months.

CASE XXII.

JULY 15, 1815.—Donald Beton, a labourer, was suddenly seized, one evening about three weeks ago, with violent pain and rigidity in the muscles of the back of the neck, particularly at their insertion in the occiput (back of the head.) There was violent pain also, when I visited him, at the connection of the spine with the head, stretching along the *Ligamentum Colli*, half-way down the neck. Motion of the head in any direction or degree was totally impossible. The man had not been in bed, nor had he slept a quarter of an hour at once, for three weeks. He could suffer no posture but the erect; and even in this, his groans annoyed the neighbours, night and day. Immoveably fixed for three weeks in one pos-

ture, worn out for want of sleep, tortured with pain, inadequately covered, having one only rag of a blanket thrown round him, with a shirt under it drenched in grease, without victuals, medicine, money, this man exhibited one of the most pitiable spectacles it is possible for the human mind to conceive.

Accident alone led me to him, but I shall ever recollect, with pleasure, a contingency that put it in my power to mitigate the sufferings, and, in some degree, to supply the wants of so miserable a man. In mentioning this latter circumstance, I allude chiefly, to the benevolence of certain ladies, possessed of feelings,

"With less of earth in them than heaven;"

and to that also, of the Society for relief of the Destitute Sick; to whom I have often, in similar cases, appealed, and never appealed in vain. On the

present occasion, their charity was prompt as the necessity of the case was urgent.

Having cleaned the neck with flour, I applied Compression and Percussion to the parts affected; in the gentlest manner at first, and afterwards with more freedom. The consequence was, considerable alleviation of pain, and some motion of the head backwards and forwards.

July 16.—Could not lie down in bed last night, and therefore had no rest, although the pain is not quite so violent;—retains the slight degree of motion of the head.—Continued the Compression and Percussion, which gave considerable relief. Ordered ten drachms of Epsom salts.

July 17.—Anterior muscles of the neck much affected to-day, from the patient having sat for some time yesterday opposite an open window. Applied

Compression and Percussion for a considerable time, with great effect.—Ordered the patient to bed, and an anodyne draught of 40 drops of laudanum at bed-time.

July 18.—Slept two hours yesterday after the operation.—Draught had little or no effect.—Pain and rigidity of the muscles of the neck much abated.—Increased motion of the head backwards and forwards.—Rotatory motion perceptible. Ordered ten drachms Epsom salts immediately, and a draught at bed-time of 80 drops of laudanum.

July 19.—Could lie in bed last night: slept well towards morning.—Much better to-day in every respect.—I contrived to apply a Bandage to the back of the head, embracing as much of the muscles of the neck as possible.

July 20.—Had a good night's rest.—Has derived great benefit from the Bandage.—Motion of the head greatly in-

creased in every direction. Feels so much better, that, but for weakness, could go to his work. Thus, a Rheumatic affection of three weeks standing, and of a severity that deprived the patient, all that time, of motion and of rest, was immediately relieved, and, in the space of four days, almost entirely removed, by Compression and Percussion, with the aid of two doses only of a purgative, and two anodyne draughts.

But this poor man was not destined long to enjoy the relief he had obtained. Confined with a wife and three children, to a small, dirty, airless apartment; a few days after I left off visiting him, he again exposed himself, betwixt a door and window, to a current of cold air; when he was a second time attacked with pain, more acute, if possible, than the former, and in nearly the same situation.

I mentioned before, that when I first visited this man, he had violent pain at the connection of the spine with the head; or, where the spinal marrow emerges from the Cranium. At this point precisely, and quite beyond the reach of Compression, was the pain now seated.* I did not see the patient, after this attack, more than twice, or three times at most; and, finding that, from the seat of the pain being within the Vertebrae, the former mode of treatment could be of no avail, I prescribed a blister, with directions to keep it open for some time. This also had very little effect. The patient's circumstances rendering it necessary for him to be carried to the Infirmary, I did not see him again; but was informed that he soon lost his speech, then suffered a general stroke of palsy, and died in a short time after.

* See Note V.

CASE XXIII.

JAMES MORRISON, aged twenty-five; of the Royal Sappers and Miners, came under my care on the 28th August, (1815) In the beginning of April he was seized with violent Rheumatic pains in his right leg; then in his left knee, accompanied with tremendous swelling; and afterwards in his right shoulder. His party being called to Woolwich, he was sent to the Military Hospital there, where he remained for some time, had his knee scarified and cupped several times, which brought down the swelling, but gave no relief to the pain. In the course of the summer he returned to Edinburgh, where he was completely laid up. Here he was attended by a medical gentleman, who, after blistering, put an issue on the inside of the

left knee, at the flexure of the joint, which discharged copiously, and, as the patient thought, weakened him greatly. For this reason he healed it up without the knowledge of his surgeon, and disingenuously gave out that he was much better, and able to go abroad.

When I first saw this young man he was decidedly hectic. He had slight pain only in his right knee, but the left could not be touched; and the effusion was so great about the anterior part of the joint, that the Patella seemed rather to swim than to be firmly attached. So much relaxed, indeed, were all its connections, that I could have pushed it upwards, downwards, and latterly, to a great distance from its natural situation. An excruciating pain run half way down the shin-bone of the same leg, and the ankle was also slightly affected. The whole of the right shoulder and side of the neck, but especially where the Cla-

vicle is connected with the Scapula, and the angle formed above by these two bones, were exquisitely pained. I applied Bandages to the knees, Friction and Percussion to the ankle and shoulder. In a very short time the right knee got perfectly well; at my third visit, the left was reduced to its natural size. Such is the astonishing power of Compression in promoting absorption! A considerable time had elapsed, however, before the pain could be said to be sensibly relieved. When this took place, about a fortnight after I first saw the patient, I knew it as well as he did. For, he could now suffer Friction and Percussion in a slight degree, which he could not do before. When this, therefore, came to be the case, the progress of the cure was accelerated tenfold.

This patient's attendance on me was very irregular. For a few days suc-

cessively, I would have seen him every day; then for three or four days, not at all. This was owing principally to his infirm state of health, which confined him often to his bed. Had he been in perfect health in other respects, I have every reason to believe, his pains would have been removed in two weeks. In spite of every obstacle, however, Percussion and Bandages operated with such power, that in six weeks from the time he came under my care, his Rheumatic complaints were so completely subdued that he could walk with perfect ease.

Thus, after five months of exquisite pain, and that every thing, at all likely to give relief, had been tried in vain, was this young man set upon his legs, in the space of a few weeks, by the sole power of Friction, Percussion and Bandages.

CASE XXIV.

I WAS called on the 16th September, (1815,) to Mrs. W. C. of C. a lady sixty years of age, who had been afflicted for three years and a half with Rheumatism to a great degree; and for the last two and a half years had been totally incapacitated from walking. The disease made its first appearance in the wrists, but travelled gradually into every joint of the extremities. Every thing that could be thought of had been tried, by the most eminent of the Profession in Edinburgh; and she had been to the watering places in England, most noted for curing Rheumatic complaints—in vain. For a considerable time indeed, she had given up all hope of ever having her condition meliorated.

The joints of some of this lady's fingers I found much swelled, enlarged, and distorted; the metacarpal bones of both hands bent backwards; the right wrist possessed free enough motion, but was weak and enlarged; the arm was permanently but slightly bent. Immediately above the inner condyle of the Humerus, there was an extremely painful tumour, and the arm about this place was thickened and puffy all round. No part of the Deltoid muscle, which was hard and thickened, could the patient suffer to be touched. She could not lift this hand to her head, nor turn it above half way to the supine position.

The left wrist joint was very much enlarged, pained, and stiff; the forearm possessed very little rotatory motion; the elbow-joint was enlarged and permanently bent; there was a very painful tumour in the same situation as

in the right arm; the Deltoid muscle was painful and rigid, though not to so great a degree as was that of the right shoulder. The patient could not lift this hand, any more than she could the right, to her mouth.

Both knee-joints were enlarged to a great degree; there was not much pain in the right, but a good deal in the left, with total immobility of the Patella (knee-pan), in any position in which the leg could be placed. For six inches above the condyles of the Femur, both thighs were greatly enlarged; and on the fore part especially, hard and unequal. In both houghs, there was a great, solid thickness—the cellular substance, in the interstices of the muscles and between their tendons, being choked up with the matter of former effusions, now become solid. There was great effusion on both joints anteriorly—the left leg could not be

extended so far, nor could it bear so much weight, as the right.

The right ankle and upper part of the foot were slightly swelled, and pained; the left very much, with the pain extending to the sole of the foot.

Such was the condition of this lady when I visited her on the 16th September. She could neither stand, nor walk, nor be lifted up off her seat, otherwise than by a servant taking her in her arms, face to face. The latter circumstance was owing to the excessive pain and tenderness of her arms, which precluded the possibility of her bearing any weight upon them. I staid with this lady three days, exclusive of that on which I went, and of that on which I returned; so that altogether she underwent five operations only. Short as the time was, however, that she was under my immediate care, the means employed (Friction, Percus-

sion, Bandages) operated so immediately and with such power, that the change produced upon her was almost incredible. When I left her, therefore, she could put both her hands to the crown of her head with great boldness; the pain in both Deltoid muscles was gone; the tumour above the elbow-joints, with the pain attending them, had disappeared; both arms were more extended; the rotatory motion of both fore-arms was greatly increased; and the swelling of both wrists and of the joints of the fingers had visibly decreased. The right arm in particular was so much improved, that but for the weakness of the wrist and fingers, she could have done any thing with it she pleased. As a proof of this, a circumstance occurred, while I was this lady's guest, that excited the agreeable surprise of all her family. When reading a newspaper one evening, she with

great ease and deliberation snuffed her candle, without recollecting, till it was done, that she had not attempted even, any thing of the kind, for eighteen months before.

But the great advantage resulting to this lady, from my operations, was her being now rendered capable of being lifted by the arms. The pains being removed from these, she could lean her whole weight upon them; and, therefore, from the first day that I saw her, she walked through her room with a servant on each side supporting her. This was a great point gained—the inferior extremities, from being in a state of dormancy for two years and a half, were now called into action; and if the mode of cure, so successful in the beginning, shall be followed with due perseverance, there is little doubt they will ultimately be restored to their proper functions.

CASE XXV.

JOHN MACVEAN, aged thirty, applied to me, on the 3d October, (1815,) labouring under a smart career of fever, attended with excruciating pains in various parts of his body. He had struggled with his disorder for some days; but was obliged to succumb at last. He came to my house with a stick in his hand, and leaning with his other arm on an assistant, who carried half his weight. Even with these aids he could scarcely support himself; and his limbs were so stiff, and his motion so difficult, awkward, and constrained, that he exhibited the appearance of a person that had met with some dreadful accident.

On examining his pulse, after he had sat a little, I found it 126 in a minute.

His skin was hot, and tongue white. His knees, thighs, the parts about the tuberosities of the Ischia, the loins, were all most excruciatingly painful. Astonished that a person in such circumstances should venture abroad, I ordered him home immediately ; where I promised to attend him in a few minutes. He had been taught, however, to expect, that I could give him so sudden and great relief as would supersede the necessity of laying himself up. My mandate, therefore, struck him with surprise ; and hinting that the journey he had already performed was more than he had accomplished with ease, he was desirous I would at least do something for him on the spot, which might enable him to get home the better.

I therefore applied Friction and Percussion to the parts already described as suffering ; and, I never had a patient in my hands who could so ill endure to

be touched. He described the pained parts as at one time feeling bruised beyond sufferance; at another, as if all on fire. The degree of mechanical force, therefore, which I employed, may well be conceived to have been very small. I had not continued my operation ten minutes, when my patient declared he felt relieved. I knew this without being informed; for he could suffer the parts to be handled with much more freedom. I now surrounded the knees and thighs with Bandages, when he walked out, without the aid of his assistant, and without leaning on his stick, which, to shew me the change that was wrought on him, he carried horizontally, by the middle. He went immediately to bed, and when I visited him at nine o'clock in the evening, his pulse was down to 100.—Much thirst.—Ordered an ounce of Epsom salts, and water-gruel at pleasure.

October 4, ten o'clock A. M. Medicine operated four times.—Pulse 90—thirst still urgent—tongue white. Pains gone from the knees, thighs, Ischia, and loins.—Severe pain at the top of the right haunch-bone, preventing entirely, the motion of the trunk and inferior extremities. Applied Friction and Percussion, when the patient immediately sat up. Cannot, on account of pain on the shoulder and elbow-joints, lift the left arm from the bed, any more than if it were made of iron. Percussion being applied to the joints, and Friction to the muscles, the patient immediately put his hand behind his neck. Ten o'clock P. M.—Pulse 96, and full.—Applied Bandages to the arm, there not being flannel at hand in the morning, for that purpose.

October 5, ten o'clock A. M.—Pulse 96, but not so full as at last visit. Pains gone from every part of the body, but

the patient has, notwithstanding, had no sleep during the night. Bowels costive. Ordered an ounce of Epsom salts to be taken immediately.—Ten o'clock P. M. The medicine was not administered. Pulse 96. No disposition to sleep.—Ordered a draught of fifty drops of laudanum.

October 6, ten o'clock A. M.—Had some sleep in the night.—Pulse 100.—The Epsom salts to be administered immediately. Nine o'clock P. M. Salts operated briskly.—Has had a good day ever since. Pulse 90. An anodyne draught to be given at bed-time, of eighty drops of laudanum.

October 7.—Had a good night's rest. Pulse 90.—Slight pain at the root of the right thumb, which was soon put to flight. In other respects free from complaint.

October 8, eight o'clock P. M.—Pulse 80.—Was out to-day: Feels perfectly well,

Here, then, is another case of Acute Rheumatism, cured by mechanical means, in the short space of four days, with the help, from medicine, of two doses of sulphate of magnesia, and of two anodyne draughts!

With such facts as these staring them in the face, few practitioners, I believe, will now pronounce (as some have already done,) my mode of cure inapplicable, or inefficient, in Acute Rheumatism. The truth is, that whatever removes the cause of the pains, must dry up the source of irritation and of fever. But nothing does this so quickly and effectually, and with so little injury to the system, as Friction, Percussion, and Bandages combined. The first of these premises no man in his senses will deny; the second I have proved, in the course of this work, beyond the power of contradiction. The inevitable conclusion is, That Friction, Percussion, and Ban-

dages are the fittest and most effectual remedy in Acute Rheumatism. Combined, they produce effects, in ten minutes, which, time and medicine united, cannot effect in ten days:—sometimes, not in as many weeks—in some cases, never.

CASE XXVI.

JOHN CHARLES, from Thurso, aged twenty-nine, came under my care about the beginning of November 1815. He had complained, for two years, of an obtuse pain in the right side, from the shoulder-blade, downwards to the space betwixt the hip-joint and tuberosity of the Ischium, and reaching forwards from the spine to the Sternum. Unable to prosecute his business, which was that of a carpenter, he came to Edinburgh in the end of summer, for medical aid. He put himself under the care of a private practitioner for two weeks, and then went into the Royal Infirmary; where he remained five weeks and four days, without receiving benefit from either. He was now dismissed

the House, with the recommendation of sea-bathing when the season returned.

When he applied to me he walked precisely like a person paralytic of one side. He could not raise his foot from the ground, but trailed it after him; neither could he reach farther down with his hand than about the middle of his leg. His chief pain was betwixt the hip-joint and tuberosity of the Ischium, but his ankle-joint was also painful and stiff; and the whole limb was subject, when his foot was raised from the ground, to violent tremors, with spasms of the *Tibialis Anticus* tendon, which prevented entirely the motion of the joint.

I had recourse to Friction, Percussion, and Bandages in this man's case also, and for two or three days, without any apparent effect. Now, however, the pain in the hip began to give way; the tremors of the limb to be less violent; and the spasms of the *Tibialis Anticus*

tendon to be less frequent and strong. At the beginning of his attendance, I desired this patient to call on me twice every day, which he promised to do; but, though he lived little more only than a quarter of a mile off, he found himself unable to comply with my request. On the sixth day, however, from the time he put himself under my care, he walked from Edinburgh to Leith and back again, and was on his feet the whole day!

Thus, by Friction, Percussion, and Bandages, were effects produced in this man's person, in the course of six days, which the ordinary mode of treating Rheumatism and Palsy* had not produced in two years; and there is reason to believe, never would have accomplished. This much, at least, must be admitted, that the physician who dis-

* See Note VI.

missed this patient the Royal Infirmary, in the latter end of October, with an advice to try sea-bathing, the season for which was distant seven months, must have had but slender hopes of his being benefited by any other mode of treatment.

This man had been but eight days under my care, when circumstances rendered it necessary for him to avail himself of the opportunity of a ship going from Leith to Thurso, to return home. He left me, therefore, before his recovery was complete; but with every symptom either removed, or so much meliorated as to convince him, that perseverance in the mode of cure I employed, would ultimately be crowned with success. I dismissed him, able to tie his shoe; free from the pain about the hip-joint; with the tremors of the limb, spasms of the tendon of the Tibialis Anticus, and pain of the ankle, en-

tirely removed; with the motion of the ankle-joint perfectly restored; and able, in walking, to lift his foot from the ground, and to plant it firmly.

CASE XXVII.

IN the summer of 1813, J. S. Esq. met with an accident by which the tendon of the Plantaris muscle of the left leg was ruptured, and the neighbouring parts severely sprained. Many weeks elapsed before he recovered the full command of his leg; and even then a very perceptible puffiness of the parts remained. In the summer of 1815, this gentleman was exposed one evening, after drinking freely, to a cold moist atmosphere, by which he contracted a low, obstinate, febrile affection, accompanied with much debility, and pain of the leg and ankle which had formerly suffered injury. The pain was now seated exactly in the situation where it was severest before, and rendered the limb incapable of

bearing the weight of the body. This I considered to be Rheumatism supervening upon an old sprain, and treated it accordingly. Every application I made of Percussion was attended with the most decisive effects; and in the face too, of the untractable febrile affection already mentioned, which never run high, but which could not, for a number of days, be put to flight, by any mode of treatment. The patient, when I first visited him on the present occasion, was much cast down at the return, as he supposed, of his old sprain: fearing he might be confined by it as long as at first, or, even *sine die*. It may well be supposed therefore, that he was not a little, and agreeably surprised, at being enabled, in the course of ten minutes, to walk considerably better. The operation of Percussion, succeeded by Bandages, was continued about a week only, when all

complaint, and even the puffiness that remained after the accident, was completely removed from the limb.

That Percussion had the principal share in producing these salutary effects, was manifest at the very time of its application. For no sooner had I gone over the parts affected, and before the Bandages were applied, than the pain abated, and the tendons became more pliant and soft. From these *data* I inferred, that Percussion would be found a powerful auxiliary in the cure of sprains. This conclusion I soon had an opportunity of confirming, in the following case.

CASE XXVIII.

A YOUNG gentleman, when taking a walk one evening in the end of summer (1815,) made a false step, by which he sprained one of his ankles to such a degree, that he could not set his foot to the ground. I saw him next morning at nine o'clock, and found the parts forming the arch of the foot had suffered chiefly. There was an elastic tumour formed, at the instep, from which the pain penetrated to the sole. I desired him to shew me how he could walk, but found he could with difficulty set his heel only to the ground, and that not without pain, and the leg completely extended. It was therefore impossible for him to walk a single step. I applied Percussion all over the foot and ankle, for ten or fif-

teen minutes, and then a Bandage. I now desired the patient to walk through the room. He very cautiously set down his foot, and in consequence of my urging him, walked a few steps, but with great pain. Thus I had the satisfaction of seeing Percussion and Bandages enable this gentleman, in the course of fifteen minutes, to do what, according to the usual mode of treating such accidents, would have been reckoned tolerable progress, at the end of a fortnight.

A gentleman who had come to breakfast with my patient witnessed my operations in profound silence, but I was no sooner gone than he indulged in the most contemptuous ridicule at what I had done, and at the patient for suffering himself to be gulled with such nonsense: declaring that himself had been laid up for several weeks with an accident of the same nature, but less

violent than what his friend had suffered, and that he owed his recovery to a successive application of leeches, lations, and opodeldocs, to the injured parts. He therefore strenuously advised the calling another practitioner without delay. My patient was somewhat staggered at this representation, but ultimately decided that, having called me, it was his duty to give my mode of treatment a fair trial. The anxiety, however, of his volunteer-doctor was such, that he called at the hour of dinner, the same day, in the full expectation of finding his friend resolved at last to have other medical aid. But instead of this, to his mortification and astonishment, found him pacing his room, and in the evening able to walk in Prince's Street. Next morning my patient called on me in his way to the counting-room, walking perfectly well, almost free from complaint—and he

never was confined another hour. Thus was a violent sprain, in the worst situation, (among the Tarsal bones) and accompanied with considerable effusion, removed completely, by one application of Percussion,* succeeded by one application of Bandages.

* See Note VII.

CASE XXIX.

ON the 2d of November, (1815) I was called to Sir T. T—, Bart. whom I found labouring under a severe Rheumatic affection in various parts of his body. His left ankle, heel, and some of the toes, were so much swelled and pained, that he walked through his room with great difficulty, leaning upon a staff. The tuberosities of the Ischia were so painful, that it was with great awkwardness and difficulty he rose up and sat down; and sitting on the softest cushion even, for any length of time, gave great uneasiness. He had great pain at the anterior superior spinous process of the right Ilium, (fore part and top of the haunch-bone) running a short way along

the crest and down the Sartorius muscle, from which circumstance he was unable, when lying on his back, to draw up his leg. The left lumbar and hypochondriac regions, the right breast and shoulder, were also much affected, though by no means to such a degree as were the three first mentioned situations. From being exposed, during the late war, to great variety of climate, my patient's health had suffered much; and he now laboured, in addition to Rheumatism, under great general debility, and loss of appetite. He had been ill seven months previous to his coming to Edinburgh, and had, in vain, spent five weeks at a Watering-place in England, in hopes of bringing on a regular paroxysm of gout,* of which his friends persuaded him his complaints partook.

* See Note VIII.

On his arrival in this city, the Warm-bath, with tonics internally, were prescribed by the first physician he consulted, but without experiencing the smallest benefit from either. He had given over the Bath before I was called in, but I advised him to continue the decoction of bark and sulphuric acid which I found him using. Finding, however, that his appetite did not improve, I advised him to give over all medicine, with the exception of an aperient as occasion required; and put him upon a plain light diet, with at most four glasses of Madeira in the twenty-four hours, which quantity, he said, did him good. He had not left off taking medicine more than two days, when he felt some return of appetite, which daily improved.

The first day I saw this gentleman he walked with great difficulty; he dared not bear upon his left ankle. I applied

Percussion to it for a short time, when he walked from his bed-room, into the drawing-room, where his lady was sitting, who was surprised at the sudden change to the better, that she perceived in his step, and asked what we had been about? Next day he went to see Mr. Sadler ascend in his balloon, and walked from the College, home to the Royal Hotel, Prince's Street, a distance not less than three quarters of a mile. This effort Sir T——s frankly acknowledged he owed to the Percussion and Bandage employed; and was, as may well be supposed, extremely happy at the prospect of soon getting rid of those pains which had harassed him so long. But my gallant patient's triumph on this occasion was, unhappily, of short duration. Having got cold in waiting on the ground to see the Ascension, he was laid up the very next day, with inflammation of the left ankle, which resisted every applica-

tion for several days. Nor was it till I employed a very highly volatile embrocation, for the purpose of carrying off heat from the inflamed surface, that Friction and Percussion could be suffered in a degree, at all efficient. Great weakness and effusion all round the ankle were the consequences of this attack of inflammation, but I took care to preserve the natural motions of the joint entire; and, by Friction, Percussion, and Bandages, succeeded in promoting reabsorption, and in restoring tone to the parts.

To the seat-bones Friction alone, was applied, and the patient soon learned to manage this department himself.

The affection at the top of the thigh was extremely obstinate. The crest of the Ilium and spinous process felt so tender, that Friction could ill be borne; and there is not solidity sufficient in the fleshy parts of the thigh to conduct that

concussive motion, intended to be produced by Percussion. I hit upon a plan, however, that succeeded to my utmost wish. I pressed with one hand on the inside of the thigh, and struck on the outside with the other. Every stroke produced a tremulous motion in the parts affected; and from that moment the pain gave way rapidly.

To the left lumbar region, Friction, alternated with heavy, steady pressure, with the palm of the hand, gradually applied, were found beneficial. These with Percussion, removed the pain from the Hypochondrium also.

The pain about the shoulder and Scapula corresponded with that in the region of the pectoral muscle; and it was removed from both by Percussion chiefly. As the shoulder is a part that admits of Percussion being applied with freedom, the pain was removed from this situation in two days, and never returned. We were

not so fortunate, however, with regard to the other parts affected. They experienced many vicissitudes of amendment and relapse, from the variableness of the weather, from fresh accessions of cold, and the general debility under which the patient laboured. The attacks, however, became less and less formidable, and were easily repulsed; and, as Sir T—s gained strength, he could himself check the progress, and entirely remove the pains, wherever they arose.

Thus, in the short space of one month, in the very worst season of the year, in the face, too, of general debility of constitution, was a violent Rheumatic affection, that had resisted every remedy that could be thought of by some of the most eminent physicians in London and Edinburgh, removed by the sole agency of Friction, Percussion, and Bandages, and the patient enabled to travel in the be-

ginning of December from Edinburgh to London; where he arrived without any casualty, and rather the better for his journey.

and the general debility under which the patient laboured. The attacks, however, became less and less formidable, and were easily repulsed; and the patient gained strength, so that he could check the progress of the disease, and remove the pains, when they arose.

Thus, in a short space of one month, in the very worst season of the year, the face, too, of general debility of constitution, was a violent rheumatic affection, that had resisted every remedy that could be thought of by some of the most eminent physicians in London and Edinburgh, removed by the sole agency of breath, percussion, and bandages, and the patient enabled to travel in the be-

CASE XXX.

LORD M——, I saw, for the first time, on the 6th November, (1815,) when I found him complaining of a Rheumatic affection of the muscles of the neck chiefly, but extending to the shoulders also, and for some way down both sides, particularly the left, of the spine. The muscles of the neck being very rigid and painful, prevented completely all rotatory motion of the head, which, for the same reason, his Lordship could not elevate as usual, nor retain, when raised, in the erect posture. This affection of the neck and shoulders first became very troublesome in the month of March;* and continued all

* See Note IX.

summer, with various degrees of severity at different times.

From the general debility under which his Lordship laboured, my hopes of being able to render him much service were very small. But determined, as in other cases, to attempt every thing, where there was the smallest possible chance of doing good, I applied my usual remedy of Friction and Percussion (the situation of the parts admitted not of Bandages) for some time to the parts affected. His Lordship lived at that time in the country, and therefore, resolved to observe, for some days, the effects of my operation before I should call again. Next day, however, I found his card waiting me in the Royal Hotel, when I visited Sir T. T——, requesting me to visit him next after Sir T. His Lordship, it turned out, found after I left him the preceding day, that he could elevate his head much better, and that

he had acquired also some rotatory motion. He determined, therefore, to push the advantage he had gained, without the loss of a day.

The most extraordinary circumstance in his Lordship's case was, that the parts affected with Rheumatism sympathized with the stomach so, that when the latter was in any degree deranged, the pain, rigidity, and puffiness of the former were increased; and, when the parts so affected were struck, compressed, or any way put in motion, the stomach discharged gas, sometimes by eructation, at other times in a long continued stream, at others as by explosion, and often in such quantity as is altogether astonishing. This phenomenon was pointed out to me at my first visit, for his Lordship had been in the habit of having his shoulders rubbed superficially.—I say superficially, for he had no idea of the advantage to be obtained

from Percussion, or from the operator insinuating his fingers between the muscles, so as to compress the cellular substance which connects them, and which was the seat of the complaint, as was proved every day by the evolution of gas from the stomach in proportion as this substance was properly handled. Percussion, therefore, and Compression of the cellular membrane, proved much more powerful than mere superficial Friction, not only in relieving of pain, the parts affected with Rheumatism, but in removing oppression of the stomach, and thereby promoting digestion.

That Percussion and Compression did powerfully promote digestion, is not a matter of conjecture, but of absolute certainty : otherwise, why the immense discharges of gas from the stomach, upon their application ? Pain and puffiness of particular parts about the neck and shoulders, and sometimes in other

situations, were always concomitant with oppression at stomach, and tendency to sickness. But the moment Compression and Percussion were applied, discharges of gas from the stomach relieved every symptom. Lightness and cheerfulness of spirits, with re-animation of countenance, immediately succeeded. Often, upon entering his Lordship's bed-chamber, I have told him, before he spoke a word, I was sorry he looked so flat, but that I would soon make him feel differently; and I never failed to redeem my pledge in a greater or less degree. I have left him, on such occasions, smiling with complacency at the feelings which arose from Compression and Percussion applied for ten minutes to the whole trunk of the body.

That Compression and Percussion, applied to parts affected with pain, puffiness, and spasm, should promote digestion, by effecting the expulsion of gas

from the stomach, is quite analogous to the operation of other remedies exhibited in cases of flatus. Thus an aromatic taken into a weak, loaded stomach, produces copious eructations—not, certainly, by mere mechanical displacement of gas, already formed; but by stimulating the digestive powers, so as to enable them to decompose that portion of the Ingesta which they cannot assimilate. I do not see the necessity of having recourse to morbid arterial action in the *Primæ Viæ*, to account for the production of the gas, or, the remote sympathy in question. The presence of alimentary matter in the stomach, not at all, or imperfectly digested, sufficiently accounts for both, for it must soon become equally noxious and offensive with any morbid secretion. Nor must it here be forgot, that Lord M——’s digestive powers were always weak—that he was all his life more or less sub-

ject to flatus, and that he was at a former period, visited with crampish pains similar to those of which he now complains. These things considered, it would rather be ridiculous than wise, to attribute the production of gas in the stomach, and its sympathy with remote parts, to occult and supposititious causes, when others, obvious, and sufficient to account for the effects produced, are staring us in the face. It is very easy to conceive, that the stomach may be able to digest perfectly, a certain portion of the food received into it, and to decompose only, the remainder. Hence the flatulency with which stomachs naturally weak, stomachs rendered weak by intemperance, and the stomachs of old people, are oppressed.

The fact of a sympathy subsisting betwixt the Rheumatic affection and the stomach, in Lord M——'s case, is not more inexplicable than any other

sympathy that takes place in the human body:—betwixt the stomach, for example, and the skin; betwixt the stomach and the brain; betwixt the stomach and kidneys; and in many other instances equally remarkable. It was to be expected, that if the spasms, or Rheumatic pains, were not really produced by the state of the stomach, this, at any rate, would most readily affect those parts, if it affected any, which were weakened by disease. The parts sympathizing, moreover, though performing very different functions, were of one general structure; and, we know that one conglomerate gland sympathizes with another situate at a remote distance, though each secretes a liquor peculiar to itself. Nor is the sympathy, in the case under consideration, so rare a fact as, at first sight, it may be imagined. I have received spontaneous assurances from many of my patients, that they

were sensible of their general health being greatly meliorated, by the continued use of Friction and Percussion. Now, unless digestion was promoted equally with the other functions of the body, it is impossible the general health could be improved. Besides, it is quite common for Rheumatic patients to complain of loss of appetite during the prevalence of a paroxysm,—a circumstance demonstrative of the existence of a sympathy between the *Primæ Viæ* and parts affected with Rheumatism.

In the course of a fortnight, or thereabout, I succeeded in removing the rigidity from the muscles of the neck, so that his Lordship acquired permanent and free motion of the head in every direction. Not that these parts were ever after entirely exempted from pain: But, instead of being permanent and fixed, or at most, affecting first one side or shoulder, and then another alternately,

as before, it was now of a more flitting nature, attended with a sense of fulness of the parts, and in the twinkling of an eye, attacking successively, the neck, the Sternum, the shoulder-blades, the sides of the head, the cartilages of the ribs, the sides of the spine between the shoulder-blades, and many other parts at a remote distance from each other; yielding readily, however, to Compression and Percussion, and accompanied, in its exit, with tremendous discharges of gas. But the amendment produced was not confined to rendering the pains less fixed than they were before: his Lordship's general health was sensibly meliorated, and his digestion promoted; the parts themselves (about the neck and shoulders) which were the chief seat of the pains, and which, when I first saw them, were red, rigid, swelled, very soon assumed their natural size and appearance.

A short time after I had been in attendance, a singular circumstance occurred, which afforded me an opportunity of demonstrating, to a gentleman of eminence in the profession, the efficacy of the mode of treatment I had adopted in regard to his Lordship. —

A small, but extremely painful tumour, suddenly appeared on the *ramus* of the lower jaw, right side, immediately under the zygomatic arch. It impeded greatly the motion of the jaw, but disappeared almost entirely, upon the application of simple pressure. It recurred, however, for three or four days successively, and on one occasion, shut almost entirely, the patient's mouth. The gentleman alluded to was present that day, when I called, and I requested him to stop till I should remove the tumour, and enable his Lordship to open his mouth; both which I expected to accomplish in the course of three mi-

nutes. The event justified my expectation, in half the time specified.

Bating the effects of a cold, which seized him a short time after I was called to his assistance, and which confined him to the house a very few days, Lord M——'s health and spirits recruited amazingly, during the first month of my attendance. Scarcely a single day elapsed, indeed, that he did not take an airing in his carriage; the motion of which, he said, my operations enabled him to bear. The severe and changeable weather that succeeded, preventing his getting out so regularly as usual, he fell off again, for some time. Towards the end of December, however, he started anew; and has ever since, with the exception of two or three days, kept improving so steadily, as now (14th January 1816,) to give fresh hopes of ulterior amendment.

CASE XXXI.

ROBERT ANDERSON, aged twenty-nine, applied to me on the 22d November, (1815,) in a condition equally hopeless and helpless. For three years and a half he had been a martyr to Rheumatism; which attacked him, first in the right wrist; then in the shoulder; in the left arm; in the legs, successively. About the beginning of August, he completely lost all power of his right arm. The left arm possessed sufficient strength; but, the fingers excepted, had been of no more use to him, for twelve months, than a poker curved at one end, and hung to his shoulder. This was owing to the elbow-joint being immoveably fixed, with the arm in the extended state. The joint, indeed, had every appearance of being entirely ob-

literated. The right arm was also as useless as a rod of iron suspended from the shoulder. The patient could not even, when sitting, lift his hand to his knee; whatever the height of the seat might be. When he wished to do this, he leaned backwards, and threw it up by the shoulder, in the same way he would have done, had the limb been paralytic. The pain of the shoulder, elbow, and wrist, was nevertheless excruciating. The rotatory motion of both fore-arms was not one third their natural range. When I asked this young man, How he took his victuals? His reply was, "They are set for me
" at a certain height, and I am ne-
" cessitated to take them just like a
" dog!"

The deplorable state in which I found this young man, was not owing to want of medical aid. Few ever lived, who swallowed more medicines,

than he seems to have done. He was in the hospital for weeks together; he had been under regular practitioners of all ranks and denominations; and there is not a Quack in, or about Edinburgh, whose nostrums he had not devoured. One gentleman in particular, the patient represents as having been at great pains with him; but, after having, in vain, made fair trial of every remedy that his own judgment and skill, aided by these of his medical friends, whom he consulted, could devise; this gentleman candidly avowed he could do no more for him.

This was a case in which, had I been ignorant of the power of Percussion in Rheumatism, any thing I could have done would have been of as little avail, as were the efforts of those who preceded me. The interior of the joints and their flexures being the parts affected, Friction was not found to be of

much use; and Bandages (Case XVI.) were of still less. Therefore, although I availed myself of both, I trusted to Percussion chiefly. This, with imitating the natural motions of the parts, were indeed, the principal remedies employed.

The left elbow-joint, it has been observed, appeared at first, to be entirely obliterated; but in less than a week, I had the satisfaction of producing perceptible motion. Attempts at the natural motion of the limb were often attended with a noise, about the flexure of the joint, resembling the breaking of small bones. When this circumstance occurred, I was sure of obtaining increased motion of the joint. Next day however, it would have been as immoveable, apparently, as ever. But, Percussion premised, it was generally found to move with greater ease. This process was repeated daily, with few

exceptions; sometimes with considerable increase of motion of the joint; then it would have remained stationary for a while. In the course of a month, however, the patient could bend this arm so far, as to touch, with his thumb, the front of his hat. That this was a considerable advantage gained, any person may satisfy himself, by attempting to bring his hand to his head, while his arm is extended. Though the joint in question is still visited, at times, with severe pains, Percussion never fails to put them to flight, and to render motion, so far as it goes, and which is now (14th January 1816,) very considerable, smooth and easy.

The right arm presented obstacles to be surmounted, far different from those which occurred in the left. The former possessed considerable flexion and extension, indeed; but it was extremely weak. All the three joints were ex-

quisitely pained; and those of the elbow and wrist, so loose and dry, that they made a rattling noise upon being put in motion. So extremely painful and rigid were all the parts about the shoulder, that the first time I attempted rotatory motion of the Humerus, the patient had almost fainted before I was aware.* I ever after proceeded with extreme caution, both in applying Percussion to the parts, and in giving motion to the several joints affected. By a patient application of these means, together with Friction and Bandages to the wrist and elbow, I had the inexpressible satisfaction of seeing my patient, in six weeks from the time he applied to me, capable of moving his arm in every direction; and of lifting his hand to his head. Towards the end of December, the shoulder was al-

* See Note X.

most free from pain; the elbow and wrist moved smoothly and without noise; and the power of the whole limb was greatly increased.

The first effect observable from my operations was, the patient's being able, when sitting, to lift his hand to his knee. Some time afterwards he advanced it a little farther; then he reached his hat; then his brow; then his nose and mouth. The reason of his being able to reach his brow before his mouth, was owing to the difficulty he experienced in bending the arm. But although he could raise his hand to the height mentioned, he could carry nothing with it for a while. The weight of the arm itself was burden enough. Now, (14th January 1816,) he can put his victuals to his mouth like any other person—a circumstance this, that above all others exhilarates his mind, and enlivens his prospects. From the pro-

gress he has already made, in the depth of winter, I have not the smallest doubt, that in the course of three months, my patient will recover the perfect use of his arms, and be enabled to provide for his family—a consummation this, of which he had not the faintest hopes when he applied to me, and which, the history of his case demonstrates, nothing could have accomplished, but a combination of Friction, Percussion and Bandages.

CASE XXXII.

ABOUT ten years ago, Mr. T. D. met with an accident, from his gig-horse taking fright, by which his collar-bone, and two of his ribs on the left side, were broken very near their heads, if the heads themselves were not separated from the spine. There was dreadful contusion also for a great way along the left side of the spine, occasioned by the shaft of the gig striking the parts, at every spring of the horse, for a length of two hundred yards. From this time forth, a weakness attended with pain, seized the whole left side, including the arm to the very finger ends. Mr. D. had been subject to Rheumatism for two years previous to this; and at the time of the accident, the left arm was so affected, that he could scarcely hold the

reins. These symptoms, the weakness and pain, were at first very obscure, but the latter kept gradually increasing for five years, till it reached a height which involved the patient in the most indescribable anguish. It made its attacks in paroxysms, attended with spasms; and was generally induced by a tendency to change in the weather—whether from good to bad, or from bad to good. It is needless to say, that this gentleman had the first medical aid this metropolis could afford; and that nothing was left untried, from which any benefit could reasonably be expected. But all was vain. Nothing could prevent the paroxysms; nothing could even moderate them, but excessive doses of laudanum. It was in one of these paroxysms on the 15th December 1815, that I first saw Mr. D.; and I confess, I never in my life was at such a loss what to do, or whether I should attempt any thing,

for the relief of my patient. The violent and incessant pain in the left hand and shoulder, about the left side of the neck and ear, together with the sudden and forcible spasmodic jerks of the head backwards and to a side, made me afraid to touch him, lest I should produce incalculable mischief, by inducing the brain to sympathize with the parts affected. The patient himself told me, indeed, that he could not suffer the parts to be touched.

Having got a summary history of the case, I thought there could be no risk in applying Percussion at a distance from the seat of pain. I began it therefore, on the back, below the Scapula, at the left side of the spine, where the ribs had suffered injury. I travelled gradually upwards to the top of the shoulder, and then all around it. The sensations produced were very agreeable. I then took hold of the left arm, and moved it up

and down, backwards and forwards; applying Percussion, at the same time, to the front of the shoulder, so as to produce a concussive motion of all the parts of which it is composed. This was also attended with soothing effects, and seemed to elicit the pain from the side of the neck and ear. I now applied Friction to the neck, avoiding one particular spot, which appeared to be the *focus* of those pains which shot up to the ear and side of the head. The great *focus* was situate in the shoulder, at the scapular end of the clavicle. From this time, the paroxysm began to decline; and next day had so far abated, that Percussion and Compression were applied with the utmost freedom, and the most soothing effects.

Several days elapsed without the recurrence of much pain; and this, all concerned fondly attributed to the mode of treatment adopted. A fresh paroxysm

however, now made its attack, and raged for twenty-four hours with tremendous fury. This dashed our hopes to the ground; and excited a suspicion, that the recent emancipation from pain, for a few days, must have been owing to some other cause than what we wished to believe. I made strict inquiry into all the circumstances attending the commencement and progress of this paroxysm; and discovered, that the patient had neglected to plug up his ears with wool, as usual, the night before the attack was made. Now the pain, in this instance, was confined almost exclusively, to the left ear. This discovery revived our hopes.

Some time elapsed without any thing occurring worthy of being recorded; when Mr. D. was again menaced with a return of pain. Three of these attacks he repelled in one day, and two in the night, by Percussion alone. Soon after

this, the weather became extremely bad and unsettled; when the attacks were renewed, and with a fury that, to a certain extent, bore down all opposition. I say to a certain extent only; for we found, that Percussion sedulously applied all over the body, had the effect of moderating pain to such a degree, that the patient was seldom under the necessity, as formerly, of having recourse to laudanum to render existence tolerable; and when this necessity did occur, that one-fourth of the usual quantity was sufficient.

The diminished dose of laudanum is therefore, the proper criterion by which to estimate the power of Percussion in Mr. D.'s case. For if, before Percussion was employed, three hundred drops of laudanum were necessary to subdue pain—and now that Percussion is applied, seventy-five drops only are required—and even this quantity but sel-

dom; it necessarily follows, that Percussion possesses three-fourths the power of laudanum. Not that Laudanum and Percussion produce a common effect, by the same mode of operation. Were this the case, the most powerful remedy would be the preferable. Laudanum most certainly allays irritation and pain; but in proportion to the quantity taken and the frequency of repetition, it destroys the functions of the stomach and bowels, and enervates the whole frame. It soothes to render more irritable; it excites but to depress. Not so with Percussion: its only effects are, to rouse into action the dormant powers of the constitution, and to obviate congestion in the nervous, equally as in the sanguiferous system.*

If therefore, Percussion possesses a power of mitigating pain, equal to three-

* See Note XI.

fourths the power of laudanum, and is at the same time free from the deleterious effects of the latter; there is the strongest presumption, that it (Percussion) will ultimately prove a cure for the untractable disorder under consideration. At all events, to get rid of the laudanum, must be considered a step towards a cure, of the very first importance. For, independent of all other considerations, ever since Mr. D. was confined and obliged to have recourse to it, a morbid secretion of Mucus in the stomach and bowels rendered the frequent exhibition of purgatives indispensable. These in their turn often rendered the bowels too irritable: so that between the two—the laudanum and purgatives, the stomach and bowels have suffered almost irreparable injury.

Mr. D.'s own mode of reasoning on the subject is, That Percussion having superseded, in a great measure, the ne-

cessity of taking laudanum; and that too, during the worst weather, in the worst season of the year; there is every reason to hope that, when the weather becomes milder and more steady, and the paroxysms of pain, of course, less frequent and less severe, the same mode of treatment will remove the disorder entirely.

In this opinion Mr. D. is the more confirmed, from his being often able to repel attacks of pain by Percussion alone; and from having had, at the beginning of winter, and before I saw him, forebodings of a struggle through the season, the bare contemplation of which filled him with horror!

It cannot be denied surely, that this reasoning is at least very plausible,—that in this instance the patient must be the best judge—and that it is of immense consequence he has conceived so favourable an opinion of the mode of cure.—

A belief of ultimate success, is the most powerful motive to that perseverance in the application of the remedy, which alone can give it effect.

CASE XXXIII.

ON the 19th December, (1815,) Mr. W. S. aged about forty, of a very full habit of body, was laid up with Rheumatism, which had hung about him the preceding fortnight, and manifested itself by pains flying through his body, but affecting the knees chiefly. I was called to him on the 20th, and found him complaining of a violent pain in his back, striking through to his very heart, as he expressed it, upon attempting the least motion. The seat of the pain was on each side of the spine, between the under ends of the shoulder-blades; darting upwards along the right side of the neck, round the head, and down the right arm. The muscles of the neck were swelled, inflamed, and at their insertion particularly, extremely painful

to the touch. The head was, on this account, incapable of motion. Confined indeed, by the pain in his back, to one posture, the patient was compelled to lie in bed like a log of wood—a circumstance, of itself, extremely distressing. Pulse 80—tongue white, with a very bad taste in the mouth.

If ever general bloodletting was indicated in Rheumatism, it was in this case. A man in the prime of life, of a very full habit of body, accustomed to live fully, labouring under pain, which, on the slightest touch or attempt at motion, struck through the chest like a dart, from spine to sternum; affecting at the same time, the neck, the head, and right arm, all which were thereby rendered incapable of motion; add to these, a dry, troublesome, wheezing cough, and a rising pulse. In these circumstances, I was much inclined, I confess, to employ the lancet; and had I

taken thirty or thirty-two ounces of blood from the arm, and repeated the operation to the same amount, (had the pains not been subdued,) within twenty-four hours ; I would only have imitated what is at present called by some, " Efficient practice."

My patient however, was strongly averse to being blooded, on the present occasion ; although he was no stranger to the operation, or to its happy effects, when necessary. I therefore, had recourse to the same means, Friction and Percussion, which I would have employed in a Rheumatic affection of the joints and tendons ; and, with the most immediate beneficial effect. When I entered his room, the patient could not raise his right arm from the bed, but in five minutes he put his hand to his neck, and to the crown of his head. The neck, which he could scarcely suffer to be touched, I handled gently at first,

and gradually with more freedom, till the pain was sufficiently subdued to allow perfect motion to the head. This effect was produced within ten minutes of my entering the room. With difficulty, I now got my patient to sit up, when I began Percussion on the back; which was attended with such darting pains to the heart, and such a cutting of the breath, as the patient expressed himself, as required the utmost caution in the application of the remedy. I laid him down a few minutes, and when he was raised up again, he bore the operation much better. I laid him down a second time, and when raised up, he bore the Percussion better still. I therefore continued it some minutes, and until he hastily cried he was relieved. I asked him, in what respect he was relieved? He said, the pains both external and internal were nearly gone, and he could breathe much more freely.

These are facts—astonishing facts—which incontestably prove, that Percussion can obviate incipient inflammation. I now laid my patient down, when he declared he could turn himself which ever way he pleased. These things took place at two o'clock P. M. and were all transacted in the course of half an hour. Ten drachms of sulphate of magnesia were ordered to be taken immediately.

At seven o'clock was still nearly free from pain. What little remained was seated lower down the back. Applied Percussion, which occasioned very trifling uneasiness. Pulse 80. Medicine had begun to operate.

Next day (December 21,) at eleven A. M. pulse still 80—is free from complaint, with the exception of a slight pain at the connections of the Sacrum, and which immediately gave way to

Percussion. Ordered an ounce of sulphate of magnesia in the evening.

Seven o'clock P. M.—Has been up all day—felt chilly for a short time after rising.—Pulse 100, which the patient attributes to hanging over the fire.—No return of pain.

December 22d, passed a restless night—headache in the recumbent posture.—No pain otherwise.—Pulse 72. Ordered six leeches to the temples.

Seven o'clock P. M. Headache gone—free from complaint.

December 23d.—Passed a good night—perfectly well.

Thus, in less than forty-eight hours—nay, I may say almost, immediately, was a Rheumatic affection completely removed, which by the ordinary mode of treatment, might have been protracted a fortnight or a month; and the patient inevitably reduced to a state of extreme debility. The reader, whoever

he is, if ever attacked with Rhematism, will not long hesitate,* I presume, betwixt the excessive evacuant plan of cure, and submitting a few minutes to Percussion, applied under the controul entirely, of his own feelings.

Thus, I have presented my readers with a detail of facts, sufficiently numerous, I trust, to warrant the conclusion, That Friction, Percussion, and Bandages combined, are the most prompt, the surest, and the safest remedy for Rheumatism, in all its stages, and in all the variety of forms in which it presents itself.

To the honour of discovering the utility of Compression and Percussion in Rheumatism,—to the honour of dis-

* See Note XII.

covering and introducing into practice, the power of Percussion, I have an exclusive claim; and I venture to assert, that it will be found a discovery of no ordinary importance.

I have been informed by all the military gentlemen of my acquaintance, that more men are invalided from Rheumatism, than from all other diseases combined. And an Officer of rank, who distinguished himself in the Peninsula, says, that in a retreat, in particular, after the army had toiled all day under a burning sun, and laid themselves down at night upon the cold ground, many were unable in the morning to make use of their arms. This is no more than what must be expected in such circumstances. But had the power of Percussion been known, the men would have had nothing to do but to give each other a few raps on the shoulders, or wherever the pains had taken hold, in

order to recover, in a moment, the command of their extremities. —To an army therefore, on actual service, the knowledge of the power of Percussion must be an acquisition of the first importance. A remedy that can restore to their functions, limbs which have been for months—for years, rendered entirely useless from Rheumatism, must certainly be capable of quickly removing Rheumatic affections of but one night's standing. It is much easier surely, to resist than to remove—to prevent this disease, than to cure it.

But Percussion is not confined to Rheumatic affections alone. It is applicable, with the best effects, to many other complaints that occur every day. It is capable of removing, in a very short time, that general distress and uneasiness arising from an unequal distribution of the fluids, occasioned by cold, or by cold and fatigue combined. It re-

moves pain from the stomach—it cures heart-burn—it promotes digestion—it improves, in fine, the general health, by promoting the action of every organ—and the time is not distant, I trust, when Percussion will be acknowledged a Power, in all cases equal, and in many superior, to Electricity.

NOTES.



NOTES.

NOTE I.

I have again and again put a stop, by the timeous application of Percussion, followed by Compression, to incipient inflammation, &c. Page 85.

A MOST satisfactory instance of the power of Percussion, in contusions, occurred to me in the month of August. (1815.) A lady upwards of sixty years of age, having stepped into her kitchen one morning, to give some orders, on turning round, struck something solid with one of her feet, which brought her to the ground with her whole weight. In falling, she received a violent contusion, from the corner of a chair, in her right side, about the middle of the tenth and eleventh ribs. I saw her in a very short time after the accident, and proposed to take a little blood from her arm, which she declined. After rubbing the part patiently with the palm of

my hand, I applied a broad Bandage to the trunk of the body, with a Compress under it, on the part affected. From these she seemed to derive some small comfort while in the erect, but could get little or no rest in the horizontal, posture. In this way she passed ten or twelve days, when she became so much worse, that she submitted to lose a little blood by the lancet. I advised leeches, at the same time, to the part affected, which was not complied with. For a short time, she thought herself somewhat relieved, but soon became as ill as ever. On the 28th of August, I was again sent for, for I had not seen her for some time; when I found her under great alarm, from increase of the pain and restlessness in the night time. Satisfied from the beginning, that the injury done, was to the containing parts only, of the trunk, and finding Compression either by Friction or Bandages, did not reach the part affected, I resolved to try what Percussion would do. This I applied for a considerable time, regulating the force employed, by the feelings of the patient. The consequence was, she slept the whole succeeding night without interruption, and arose next morning, not free from pain, but so much relieved, that I found her quite cheerful and happy. From this time she continued to improve daily, and in a short time the pain left her entirely.

A few days before the above accident occurred, a gentleman of this city applied to me for advice, for

an affection of his breast, of which he had complained for some days. The pain was confined to the left side of the chest, affecting the whole space occupied by the true ribs, and impeding respiration considerably. Notwithstanding the last mentioned symptom, and that the patient described the pain as deeply seated, I did not consider the lungs themselves to be affected. Instead therefore, of bleeding him copiously, as I saw he expected, I began the application of Percussion to the part affected. This surprised the patient greatly. And, although I explained the object I had in view to accomplish by this process, he was quite distrustful; barely suffering me to proceed, upon the strongest assurances being given that no harm would be done. That any positive advantage was to be obtained from such a mode of proceeding, he could not suffer himself to believe. I nevertheless continued my operation for a few minutes, and desired him to call again, next day. I neither saw nor heard any more of this gentleman, however, till about a fortnight after, when one of his acquaintances met me in the street, and congratulated me on performing an instantaneous cure, by wonderfully simple means, upon his friend. My patient, it turned out, though he did not return to tell me the effect of the operation performed on him, had not concealed it from others, but candidly attributed his cure to that cause, in which, when it was applied, he had so little faith.

IN the course of last summer, I was requested by a lady in Heriot Row, to visit an old man in Stockbridge, one of the objects of her unbounded charity, who, some weeks before, "had broke three of his ribs by a fall on the corner of a chair." On examination, I found the injury done to be at the anterior edge of the under end of the shoulder-blade, but no ribs broken. From the violent contusion he had received, the patient could move neither the arm nor the trunk of his body, without the greatest pain. I applied Friction and Percussion to the part, with my bare hand, for a considerable time. He moved his arm immediately, and in every direction he was desired. He rose up also, and sat down, and turned himself in bed with the utmost ease; none of which he could do before, without the most excruciating pain. Having applied a Bandage round his body, I directed him never to humour the pain, but if it returned, or the part became stiff, to apply Friction and Percussion, till he could perform, with ease, all the motions he had gone through in my presence.—These, Friction, Percussion, and Bandages, were all the discutients employed in this case of violent contusion, and the man required but one visit!

A YOUNG LADY, in a boarding-school in Howe Street, when taking a walk one evening in harvest, was struck on the inside of one of her ankles, im-

mediately below the Malleolus Internus, with a stone that rolled down a precipice as she passed along. The point injured was very small, but she was rendered incapable of walking without difficulty and pain. When I was called, which was about a week after the occurring of the accident, the part was slightly swelled, and as painful as it had ever been. I dipped my finger in hair powder, and applied gentle Friction—increasing the pressure as the patient could bear it. I then applied a Compress and Bandage, when she walked better than she had done since she received the injury. Next day, I went through the same operation, by which her walking was still more improved. The third day she felt no pain, the swelling was gone, and she walked as well as ever she did in her life.

Mr. WILLIAM SMITH, George Street, applied to me in the first week of October, (1815,) in consequence of having hurt his back by a fall in a stair. At the time he came to me he was labouring under a violent catarrhal affection also, by which the pain of the back had become greatly increased, both in severity and extent. It now extended from the posterior Spinous Process and Crest of the Ilium of the right side, as high as the true ribs, and from spine to Sternum. His breathing was very considerably affected; and he expected I would give him some medicine internally, to re-

lieve all these complaints. I said I would do so, provided what I was about to try, should fail. I now applied Percussion over all the parts affected. Astonished at what I was about, he asked if "I was putting any thing on his back?" I assured him I was, and what would go through him like a shot. Having continued this process for a short time, the patient went away, quite at a loss what to think of my mode of cure. One thing only he was sure of,—that he was no better. He came back next day, however, and underwent the same operation, still inquiring (he stood with his back to me) if I put any thing on the parts? to which I gave the same answer as before. The third day I met him on the street, when he informed me, in a decisive tone, that I had cured him at last,—that his pains were almost gone. Not next day, but the one following, he called and got his third beating, which settled "the great pain," as he called it, for "he had a little pain also, which he did not much mind." Thus, a severe pain, occupying almost the whole right side of the trunk—occasioned at first by contusion, and aggravated afterwards by cold, attended with some degree of fever, was removed from a man, seventy years of age, by Percussion alone, applied three times only, and not longer than five minutes at a time.

NOTE II.

For if Percussion and Compression obviate incipient inflammation, &c. Page 86.

THE effects of astringent gargles in superficial inflammation of the fauces, are at once a proof of the relaxed state of the capillaries, in inflammation, and of the benefit to be derived from whatever increases their action and strengthens their tone. What, therefore, astringents perform on the capillary blood-vessels of the surface, Percussion and Compression may be presumed to effect, on those of deeper-seated parts. This is a conclusion that cannot be resisted, but on the supposition, of different parts being subject to different laws, when in a state of inflammation, arising from the same cause. Suppose, for instance, that from exposure to cold moist air, I should get both sore-throat and pain in my side, arising from incipient congestion there—that the former should readily yield to a gargle of Brandy or of Port Wine, the latter to Percussion and Compression,—would I not be justified in concluding, that both complaints were removed on the same principle—that of promoting the action, and strengthening the tone of the capil-

lary vessels, admitted on all hands to be the seat of inflammation?

NOTE III.

Articular Surfaces, Synovial Glands, can neither be compressed by Bandages nor stimulated by Friction.

Page 135.

FRICTION applied, merely to the surface, can do little more than stimulate the vessels of the skin. It is impossible it can have either an immediate or remote effect on vessels in the interior of a joint. It does not follow, however, that Friction cannot be applied to articular surfaces. If there is any motion remaining to a joint, this is quite practicable, and attended with the happiest effects. Whenever, therefore, I meet with a joint whose motion, either from dryness of the synovial surface, or from contraction of the tendons, is impaired, I sedulously imitate, as far as practicable, the natural motions of the parts. In this way, contracted tendons are elongated, thickened and tender capsular ligaments are extended, and the vessels of dry articular surfaces are stimulated to action, and pour out their lubricating liquor.

NOTE IV.

For it is extremely probable, the good thus obtained does not depend, &c. Page 137.

IF the advantage obtained by Rheumatic patients from riding on horseback depended altogether on increased perspiration, then Sudorifics and the Warm Bath, would, separately, prove a certain cure for Rheumatism—which we find is not universally the case. Riding on horseback has this advantage, that not only are all the parts of the body subjected to a concussive motion, but great part of the muscles are put in action—which, to the parts they compress, are equivalent to Friction. I know a gentleman, extremely subject to Rheumatism, who, whenever he is threatened with an attack, has recourse to a ride, which never fails to operate as a complete preventive. So powerful a corrector, indeed, of congestion, is this mode of gestation, that I firmly believe it would be of incalculable advantage in many cases of fever.

I know a medical gentleman, who was practising, more than twenty years ago, in a country situation, where a bad Typhus prevailed. One morning he awoke with every symptom, as he supposed, of the

fever. At breakfast-time he took horse to go to his friends, who lived twenty miles off; and, was under some alarm lest he should not be able to reach his destination. He had not rode above six miles, however, when he found himself perfectly well.

I have somewhere read an account of a young man, who, in the middle of a Typhus fever, was driven in a cart the distance of seventy-two miles. It was feared the rough motion of the vehicle would have killed him; but to the utter astonishment of all concerned, the patient was free of his fever at the end of his journey. What the motion from riding on horseback, or in a cart, is to the system, Percussion is to a particular part.

NOTE V.

At this point precisely, and quite beyond the reach of Compression, was the pain now seated. Page 169.

HAD I facts at my command, it is impossible I could make a selection more directly corroborative of the theory I have endeavoured to establish, of the proximate cause of Rheumatism, than are those that occurred in this man's second attack.

Not only so—they throw a glare of light on the proximate cause of Palsy also. They directly prove, that Palsy is not occasioned by exhaustion, but by obstruction of the nervous power. In the first attack, the seat of the pain was exterior to the spine, and therefore within the reach of Compression, to which it readily yielded; in the second, the cellular texture covering the occipital nerves at their origin must have been the seat of the affection; for all the parts that these nerves supply became excruciatingly painful and swelled. This affection, or distention of the vessels of the cellular substance, advancing farther inwards, along the Medulla Oblongata, must have pressed next on the ninth pair of nerves, which are expended on the organs of speech chiefly. Hence paralysis of these, and of other parts, occurring so rapidly and in succession.

(It would from this appear, that Compression arising from congestion in the vessels of the cellular texture, forming the sheaths of the nerves and of their Fasciculi, constitutes the proximate cause of Palsy; and that, therefore, the proximate cause of Rheumatism and of Palsy are affections of the same general structure. Nothing can resist the evidence, to this effect, of the facts occurring in this man's case. The same cause which, operating on parts exterior to the spine, and on branches only of nerves, produced Rheumatism; when extended

to parts within the spine or Cranium, and to the origins of nerves, produced Palsy.

Should it be asked, Why, if Rheumatism and Palsy are both produced by congestion in the cellular membrane, their symptoms are so very different? I would reply, that compression of a nerve at its origin must produce effects very different from those occasioned by the compression of a few branches; and, that the pain attendant on Rheumatism depends, most likely, on the degree of pressure on the nerves of the part affected. In Rheumatic affections of the Sciatic nerve, indeed, we have a fine example of Rheumatism and Palsy alternating. At one time the pain is exquisite; at another, and often in a few hours, the parts which that nerve supplies become, for a time, nearly destitute of feeling.

Two facts, so far as I know, entirely new, occurred to me in the course of last summer, (1815,) which exhibit the powers of Percussion as applied to Palsy even, in a very striking light. The first I observed in a fat, lumpy, tallow-looking woman, upwards of forty years of age. She complained of a slight stupor, of a dull, obtuse pain in her head, and of total inability to move her right arm. I attempted to let blood in the arm, but did not succeed. I therefore proposed opening the jugular vein, and leeches to the temples, which were declined; and, as she was going, she said, to the

country immediately, for the benefit of her health, I never heard more of her. Before I left her, however, I urged her to try to move her arm, and found she had some, though very little, command of it below, but none above the elbow-joint. I applied Percussion to the shoulder and side of the neck for some minutes, and then desired her to try if she had acquired any more power over the arm. To the astonishment of all present, she immediately lifted her hand to the crown of her head, and moved her arm in every direction she was desired.

The second fact occurred in Michael Meredith, aged sixty-four, who applied to me in August, after having been first in the Clinical Ward, and after it was shut, in one of the ordinary wards, of the Royal Infirmary, from which he was dismissed, he said, as incurable. His whole left side being affected with Palsy, he walked as ill as it is possible to conceive of a person who can make progress at all. The reader will be able to form some idea of the total want of command this man had over his arm, when I inform him, that, having asked why he held it in a sling? he said it was to prevent it dangling backwards and forwards when he walked. Without the smallest expectation that I could be of any service to him, yet with the fact above related, that occurred in the woman's case, fresh in my recollection, I set him down and began Per-

cussion on the shoulder and side of the neck. He immediately complained of pain on the anterior and inner part of the joint, below the clavicle, and in the fore-finger. These effects, I thought, augured well. I continued the Percussion till the pains abated, and then desired the patient to try if he had acquired any command over his arm. He gradually lifted his hand to the pit of his stomach. This he did five or six times; and would have lifted it still higher, but for a large tumour that projected from his left breast. I performed the same operation on the inferior extremity, when he complained of severe pain betwixt the hip-joint and tuberosity of the Ischium, (seat-bone) so that had this man complained of no other part than his leg, I should have concluded that he laboured under Sciatic Rheumatism instead of Palsy. When he returned next day, I found he had not retained the power he acquired the day before in his arm, but he had not lost it altogether; and it was not only soon restored, but increased by Percussion. The leg was so much improved by two operations, that he walked to Piershill Barracks and back again to Edinburgh—a thing, he said, he could not have attempted when he applied to me. Anxious to ascertain what Percussion could really effect in Palsy, I urged this man to be punctual in his attendance; but he now absented himself for several days, and

when he returned I refused to have any thing farther to do with him.

That in the first of these two cases, the disease originated in the brain, there can be no manner of doubt; and, though Meredith asserted he never complained of his head, there can be as little doubt concerning the origin of his affection. His wife, indeed, called with him the second day, and told me, he insisted for some time after he was seized, that he had two left arms. How then comes it to pass, that Percussion, applied to a part at a distance from the seat of the disease, has the power of removing it in any degree? To this it is not easy to give an answer. But it may be observed, that an organ that can convey intimation to the brain, from the remotest parts of the body, in less than the twinkling of an eye, may well be supposed to be affected to its very origin, by so powerful an agent as Percussion. It is not inconceivable therefore, that the nerves of a paralytic limb may receive from Percussion, such a degree of vibration as will reach their common origin, and elicit from it, though suffering Compression to a certain degree, a partial transmission of nervous energy.

NOTE VI.

—which the ordinary mode of treating Rheumatism and Palsy, &c. Page 189.

Dr. DUNCAN, senior, of this University, divides Rheumatism into four stages, each of which is distinguished by symptoms peculiar to itself. Thus, the Inflammatory stage is accompanied with fever, heat, swelling, and redness; the Irritable is distinguished by acute pain, burning heat in the parts affected, absence of general Pyrexia, although the pains continue to be aggravated during the night; the Atonic is attended with dull pain, which is relieved by heat, especially of the bed; and lastly, the Paralytic stage is known, by emaciation and weakness of the limbs.

Whoever has had much practice in Rheumatism must admit, that these distinctions are founded in fact; and though the different stages run into each other so, that the line of demarcation is not easily ascertained; such a division is admirably calculated to facilitate practice; and reflects the highest credit on Dr. Duncan's accuracy of observation, and powers of discrimination.

NOTE VII.

Thus was a violent sprain removed completely, by one application of Percussion, &c. Page 198.

It is probable, and indeed most likely, that, in this case, some of the tarsal bones had suffered partial dislocation. For had the excruciating pain that was present depended entirely on the injury done to the soft parts, it is not likely that Percussion, however beneficial, could instantaneously have produced such great effects. But on the supposition of a partial displacement of a small bone, it is quite conceivable, that the motion given to all the parts by Percussion, would effect its reduction. Here then, is the whole secret of the success of ignorant Bone-setters completely developed. They do at random and by force, what regular practitioners ought long ago to have done on scientific principles. Such, however, is the perverseness of mankind, that they will rather remain in ignorance, or allow their patients to suffer, than either learn from, or follow the practice of supposed inferiors. That the individuals denominated Bone-setters, often do incalculable mischief, is beyond a doubt. But that they often succeed where regular practitioners have fail-

ed, in giving relief from pain, originating in fractures, dislocations, and sprains; and that they often succeed in giving motion to joints, the immobility of which had defied all ordinary practice, are also matters of daily experience. Nothing so easy as to clear up this mystery. The principles on which I conduct the cure of Rheumatism and Sprains, completely unmask the supposed superior skill, and satisfactorily account for the now-and-then success attending the random practice of Bone-setters. A person, for instance, suffers dislocation of the Humerus, by which the parts concerned in its motion are severely sprained—he applies to a surgeon, who is a complete anatomist, a dexterous operator, a learned physiologist—the luxated bone is reduced, the arm slung; and if there is no contusion, and little reason to apprehend inflammation of the parts, the patient is dismissed with injunctions to take care of himself. By this is meant, that he must keep his arm in one posture for a length of time. When the parts are supposed to have recovered their tone, motion of the limb is permitted. But the limb cannot now be moved without great pain. Here the patient's *volunteer doctors* strike in, and advise, that “The arm has not been right set.” Off he goes therefore, to a Bone-setter, who answers all questions by a significant shake of the head. From this it is inferred, that he possesses very superior skill—that he sees as by intuition, the

error that has been committed, the fault that must be rectified. The patient therefore, now cheerfully submits to a degree of pain, which, had his surgeon inflicted, he would have been pronounced a savage. The operator pulls and twists the limb, he thumbs and nibbles the joint, he naffows the muscles, till the pain which was at first excruciating, begins to abate. The patient can now move his arm without aid; and therefore concludes, that the business which was at first bungled by his surgeon, is now done in style. Now, all that the Bone-setter has to do, (all that he does in such a case) is to promote circulation in those vessels, which, from the violence they suffered, are in a state of atony, and unable to propel their contents. The moment they are roused to action, motion becomes practicable; and this, at first an effect, now becomes a cause of farther improvement. Did surgeons, in cases of luxations and sprains, apply Friction, Percussion, and Bandages from the beginning, according to circumstances, practising at the same time, the natural motions of the parts, the celebrity of Bone-setters would be heard of no more.

NOTE VIII.

—*had in vain spent five weeks at a Watering-place in England, in hopes of bringing on a regular paroxysm of Gout, &c. Page 200.*

WHETHER there was a mixture of Gout in this gentleman's case, or not, it is impossible with absolute certainty to ascertain. He denied that ever any thing of the kind was known in his family; and yet the painful swelling of the joints of some of the toes, strongly indicated something of this nature. I certainly gave it as my decided opinion, that there was no Gout present. But whether right or wrong in so doing—one thing is certain, That the pain and swelling of the joints of the toes, yielded as readily to Percussion and Compression, as did the pain and swelling of those parts which were, without doubt, affected with Rheumatism. If therefore, there was any mixture of Gout in Sir T——'s case, then Percussion and Compression are a remedy for Gout, equally as for Rheumatism. I see nothing, indeed, in the nature of things, why they should not be as beneficial in the one disease as in the other. In Madame Rey's case, I applied Percussion and Compression indiscriminately, to

parts affected with Rheumatism, and to parts which were suffering from Gout; and with immediate and great advantage to both.—It is my intention to prosecute this subject farther.

NOTE IX.

This affection of the neck and shoulders first became very troublesome in the month of March. Page 207.

LORD M—— had been complaining two years previous to this, of crampish pains in various parts of the body, attended with loss of appetite, and flatulency of stomach and bowels. These evils if not the consequences, were, at least, coeval with a suppression of urine, unattended with any other morbid symptom than mere enlargement of the Prostate gland. His Lordship took a great deal of exercise, on foot and on horseback, with the view of regaining appetite, and of strengthening the constitution. The digestive powers, however, remained very much impaired; flatulency became more and more oppressive; the crampish pains increased in frequency and force; “and though, in May, they appeared to yield to anodyne clysters, they continu-

ed to harass him so much as to prevent, by the pain the motion excited, his airings in his carriage, or his travelling to any distance without the risk of being confined by them."

NOTE X.

—the first time I attempted rotatory motion of the Humerus, the patient had almost fainted away before I was aware. Page 224.

It is not to be inferred from hence, that our mode of curing Rheumatism is a painful operation. Quite the reverse. I uniformly consult the feelings of the patient, as to the degree of force employed in applying the remedy. To do otherwise, would be attended with no advantage whatever, either to patient or practitioner. Accordingly, I never met with any, in earnest about being cured, who ever made a serious objection to my mode of proceeding. Besides, any trifling pain that may arise from first touching very tender parts, is quite momentary—is at an end the instant the cause (hand of the operator) is removed, and that is, in the twinkling of an eye. No doubt, I

now and then meet with individuals, who, while they entertain a very high opinion of their own resolution and fortitude, will yet submit to no inconvenience whatever—will use no endeavour to second my efforts. I am aware, that some of this cast have done what in them lies, to discredit my mode of cure, as harsh and unsufferable; but surely, the thinking part of mankind will not allow themselves to be influenced by representations, flowing entirely from prejudice.

NOTE XI.

Not so with Percussion; its only effects are to rouse to action, the dormant powers of the constitution, and to obviate congestion in the nervous, equally as in the sanguiferous system. Page 233.

THAT Percussion possesses the power of promoting an equilibrium in the nervous system, is not a matter of conjecture only, but of absolute certainty. And it is from this mode of operation alone, that I conceive it beneficial in Mr. D.'s case. Accordingly, when pain is concentrated in the left side of the neck, which is often the case, Percussion applied to

the opposite side, produces the most soothing effects, and relief of all the symptoms. Steady, equable Compression even, on the right side of the head, relieves pain on the left. I do not therefore, confine the application of Percussion and Compression to the parts affected, in Mr. D.'s case. He finds great benefit from their application to the whole trunk and extremities. And what must be regarded as a matter of the highest importance—Percussion, how often soever applied, is ever new. It is not like medicines exhibited internally, which must be increased in quantity, in proportion to the frequency of repetition: its effects are uniform, and at all times the same.

From these facts, I am strongly inclined to believe that Percussion will be found a powerful auxiliary in the cure of Tic Douloureux and Tetanus. A most skilful and learned Physician of this city, has indeed declared, I am informed, Mr. D.'s complaint to be a species of Tic Douloureux on a large scale. If this opinion is well founded, then we have proof positive, that Percussion is beneficial, and that in no small degree, where the knife only has hitherto been supposed to avail. But if Percussion is beneficial in painful affections of the nerves, and in spasmodic affections of the muscles, we may not only from analogy, but *a priori* conclude, that it will prove an efficient remedy in

Tetanus also. And if this should prove to be the case—if it shall be found to supersede the necessity of the immense bleedings on the one hand, or the astonishing doses of opium on the other, as recommended by different practitioners, for the cure of this terrible malady—then Percussion has a fair claim to be considered one of the most important Powers ever introduced into medicine.

NOTE XII.

The reader, whoever he is, if ever attacked with Rheumatism, will not long hesitate, &c. Page 243.

MANY physicians are of opinion, that a very free use of the lancet in Acute Rheumatism, ensures a slow recovery, and very often Arthrodynia, or chronic pains in the joints. This opinion accords with reason and common sense. For if the proximate cause of the disease consists in debility of the parts affected, can it be supposed that a remedy directly and powerfully debilitating, can ultimately have, if carried too far, or employed unnecessarily, any other effects than that of fixing what was intended to be removed? I am far from asserting

that general blood-letting is always improper in Rheumatism. Often it is advisable, sometimes necessary; but the detraction of a Scotch pint of blood, in the course of twenty-four hours, where there is no affection of the lungs or other internal organ, I call breaking down a constitution as with axes and with hammers. "*Nam ut sanguis semel missus nunquam in venas, sic neque vires cum illo amissæ in variis morbis unquam refici possunt.*" (Conspect. Medicin. Auctore, Dr. Gregory.)

When I am called to a patient labouring under Acute Rheumatism, and find him oppressed with a load of bed-clothes, and covered with sweat, the consequence of mere oppression; whatever the state of the pulse, whatever the severity of his pains may be, I instantly direct the surface to be rubbed with flour till dry, and then with flannel or the flesh-brush. During this process the cold air is freely admitted to the whole body, and I never found any detriment arise from the practice: On the contrary, the patient uniformly feels refreshed and relieved. I have carried the application of cold in Rheumatism farther than even the admission of cold air to the body. To a wrist in a state of inflammation so high that the patient could not suffer it to be touched, I have applied cold water with a sponge with great deliberation. By the conversion of the water into vapour, so great a quantity of heat was

carried off, that the tumour could in a few minutes suffer both Friction and Percussion. From the good effects, indeed, which I have produced by the admission of cold air, I am strongly inclined to believe, that sponging the body with cold water, when the skin is hot and dry, would be attended with the happiest effects in Acute Rheumatism.

THE END.